Geography for
Schools In India

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Venus is the most brilliant of the planets. As the evening star it is visible shortly after sunset, and as the morning star shortly before sunrise. On moonless nights its light is strong enough to throw a trail of Venus-light across the sea. Uranus and Neptune are not visible to the naked eye. Mercury is the smallest of all the planets, and Jupiter the largest. The Earth is the largest of the inner planets, and Uranus is the smallest of the outer planets.

5. **Satellites.** Many planets are accompanied by secondary planets or satellites[1] which revolve round them. Thus the moon is a satellite of the Earth. Of the other planets, Neptune has one satellite, Mars two, Jupiter and Uranus four, Saturn eight, as well as three flat circular rings which surround it.

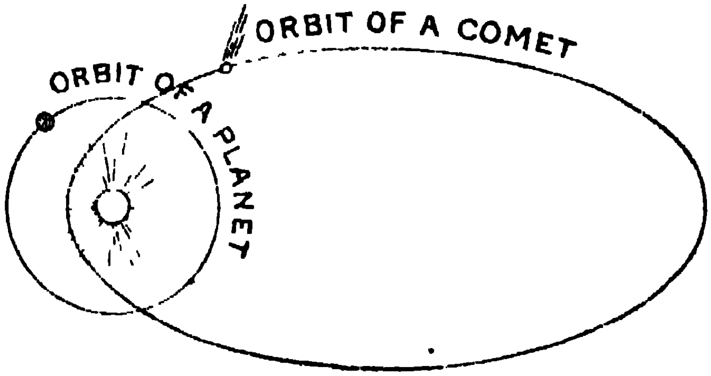

FIG. 2

6. **Comets.**[2] These are stars usually consisting of a bright nucleus or head, which is followed by a less bright tail. They travel round the sun in very long orbits, being visible for a time when near the sun, and then receding to an immense distance from it.

7. **The Solar System.** The sun, the planets, and other bodies which revolve round the sun, and the satellites of the planets, make up a whole which is called the Solar System. This group of stars is, as we have seen, separated by immense distances from the other stars of the universe, and is itself, as a whole, moving at enormous speed through space.

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[1] From the Latin, *satelles*, an attendant.

[2] Greek, *kome*, hair.

8. **The Earth as a Planet. Its Revolution.** The Earth, as one of the eight principal planets in the solar system, is moving round the sun in a nearly circular path or orbit.

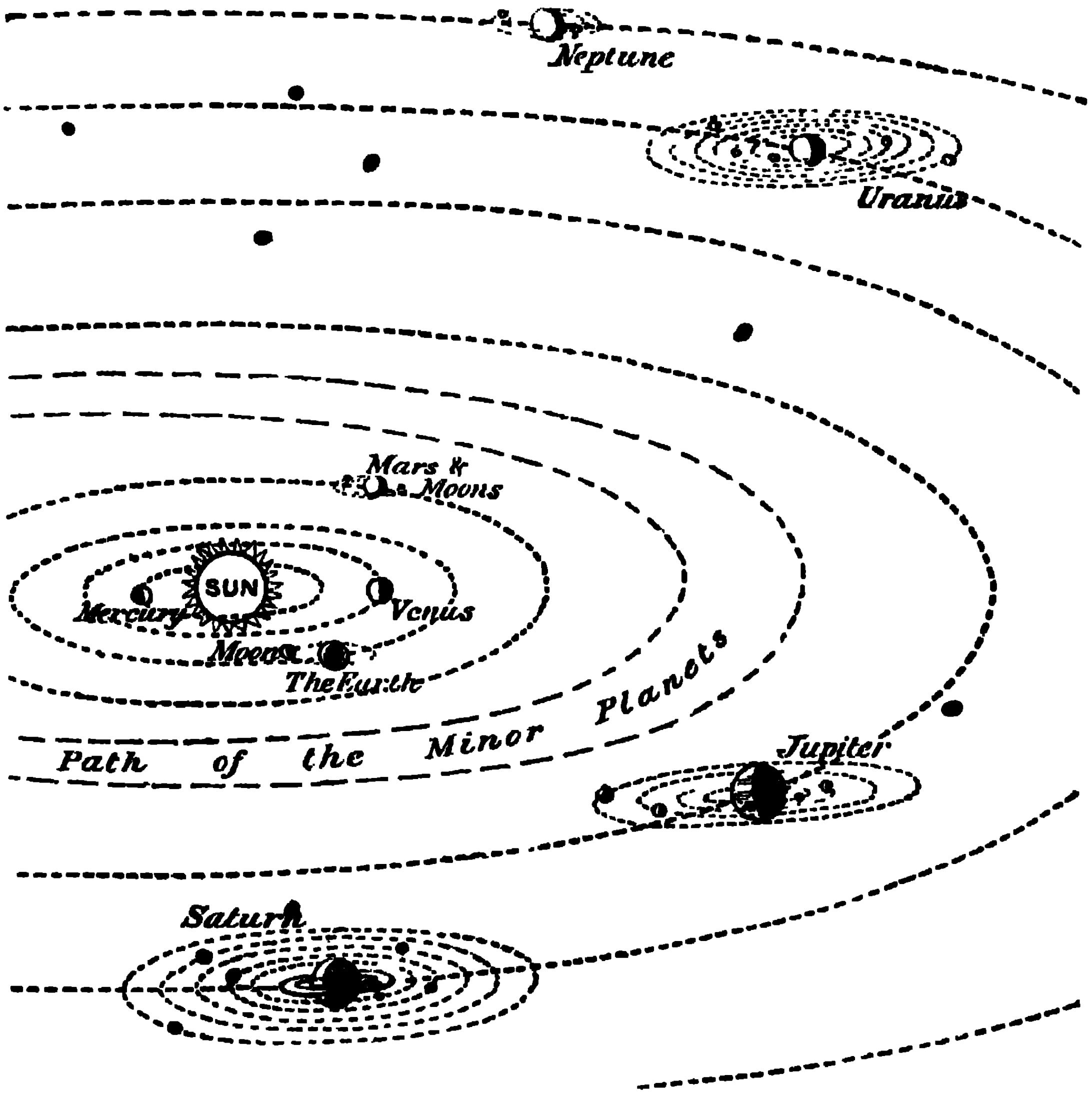

FIG. 3.—The Solar System.

The Earth's orbit is the mathematical figure called an ellipse, but the ellipse described by the Earth differs so slightly from a circle that if it be represented by a circle three inches in diameter drawn with an ordinary pencil, the difference between such a circle and an ellipse correctly representing the Earth's orbit will be covered by the line marking the circumference.

This movement of the Earth round the sun is called its **revolution.** The average speed of the Earth along its orbit is

18½ miles a second, and the time of a complete revolution is one **year**, or 365¼ days.

9. **The Earth's Rotation.** Besides its movement of revolution the Earth has a spinning motion like that of a top called **rotation.** The direction of the Earth's rotation is the same as that of its revolution—from west to east. The time of a complete rotation is 24 hours or one **day.**

As is the case in a spinning top, the different parts of the rotating earth are moving at different speeds. At two points on its surface, called the **poles,** the movement of rotation is zero. Midway between these points, along an imaginary line called the **equator,** the speed at which the ground is moving round is at its greatest—about 1000 miles an hour.

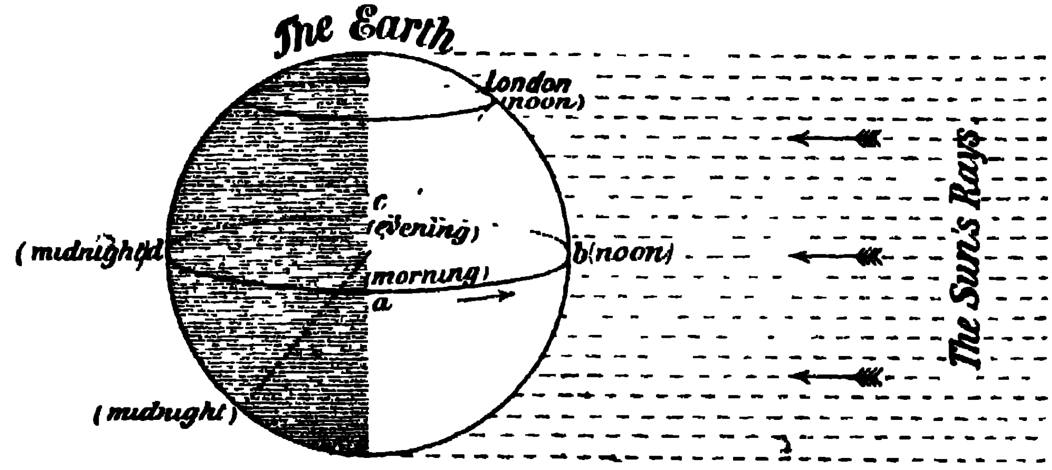

FIG 4

10. **Apparent movements of the heavenly bodies.** During its rotation the Earth brings the points *a*, *b*, *c*, *d* (Fig. 4) of its surface successively opposite the sun. It is this movement which makes us think that the sun changes its position in the sky. We see it rise towards the east, reach its highest point in the south, and set towards the west.

So, in a smoothly moving railway train, the ground, trees, and other objects seem to be moving, while we ourselves seem to be motionless. In reality it is we who are moving in the opposite direction to that in which the objects outside the train seem to be moving. And, similarly, the sun seems to move round us from east to west, whereas in reality we are spinning round with the Earth from west to east.

The annual revolution of the earth round the sun produces a similar illusion. Owing to the change of the earth's position along its orbit the sun seems to change its position relatively to the stars, and to describe a great circle in the heavens, with the Earth as its centre. This apparent yearly path of the sun among the stars is called the **ecliptic**;[1] and the twelve constellations through which the sun seems to move are the "signs" of the **Zodiac.**[2]

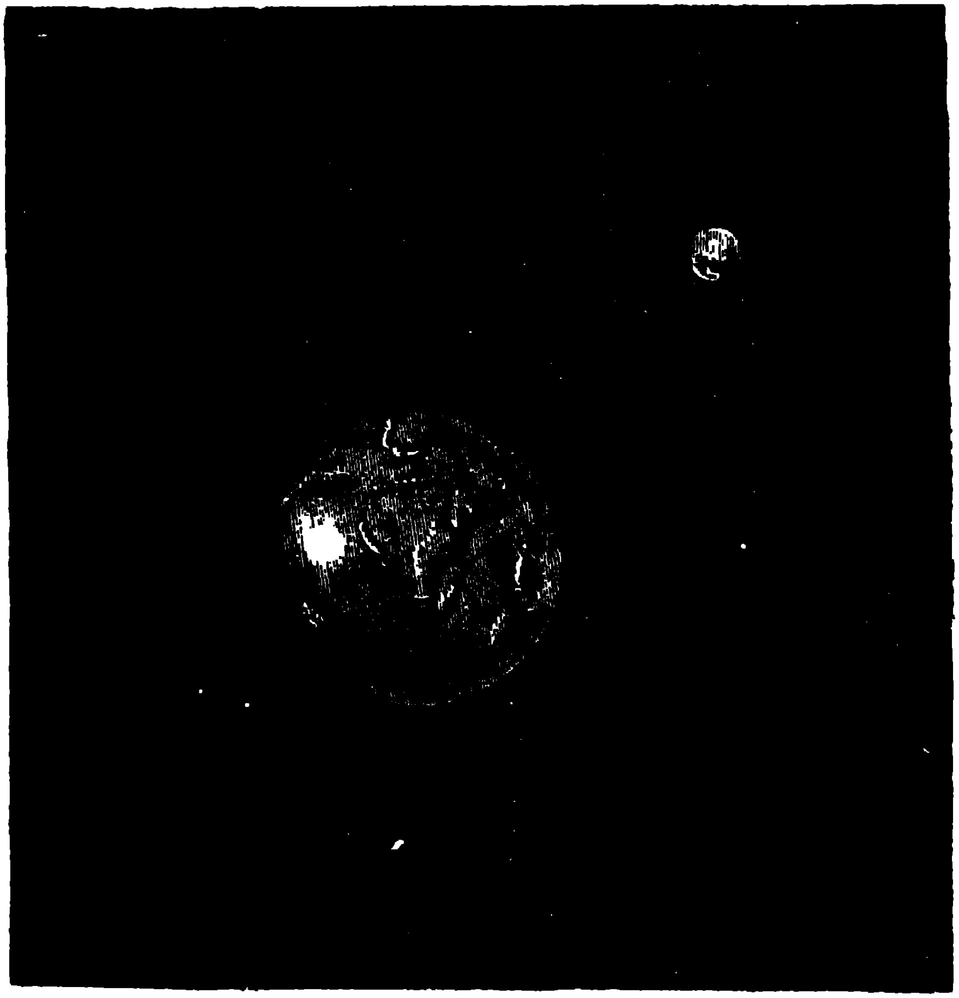

FIG 5

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[1] Greek, *ekleipsis*, a failure, e g. of the sun's light The ecliptic is so called because it is the line in which eclipses must occur, as being the line of the sun's path.

[2] Greek, *zodiakos*, belonging to animals. The zodiac is the imaginary belt, extending on each side of the ecliptic, which contains the twelve constellations chiefly represented from very early times by animals.

11. **Day and Night.** The alternation of day and night is due to the rotation of the Earth. It is plain from Fig. 4 that when one half of the Earth's surface *abc* is in sunlight, the other half *cda* must be in shade In other words, it is day from *a* to *c*, and night from *c* to *a*. At *a*, on the edge of the illuminated part, it is sunrise, at *b* it is noon, at *c* it is sunset At *d*, exactly opposite *b*, on the side away from the sun, it is midnight. Twelve hours later *d* will have been rotated into the position of *b*, and it will be noon there, while at *b* in its new position it will be midnight.

12 **The moon** is a small star $\frac{1}{49}$th of the size of the Earth. Its distance from the Earth is 240,000 miles, nearly $\frac{1}{400}$th of the Earth's distance from the sun. Like the Earth the moon has no light of its own. It shines at night because it reflects the light which it receives from the sun

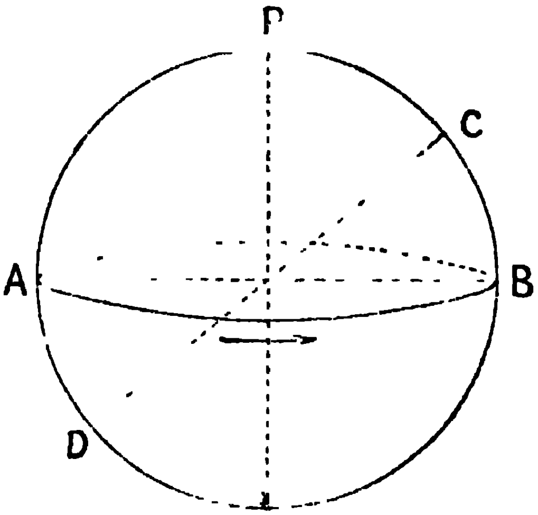

FIG. 6a.

The moon, as a secondary planet, is a satellite of the Earth, and revolves round it just as the Earth revolves round the sun. The time of a complete revolution is 27 days 8 hours, but a longer time, 29½ days, is required to bring the moon twice in succession exactly opposite the sun. The reason of this is that while the moon is revolving round the Earth, the Earth is moving along its orbit. Hence, in order to return to a position exactly opposite the sun, the moon has to perform rather more than a revolution, and the time taken in so doing, the time from one full moon to another, or from one new moon to another, is the **lunar month** of 29½ days.

Thus, the rotation of the Earth divides time into days; the revolution of the moon round the Earth divides time into months; the revolution of the Earth round the sun divides time into years.

### QUESTIONS.[1]

1. The word geography means Earth-description (Greek, *ge*, earth; *graphein*, to write). What sort of description of the Earth is it the business of geography to give?

2. How do fixed stars differ from planets?

3. What is the Milky Way?

4. How is the pole-star found? What is its use in geography?

5. What is the solar system? What do you know of the relative sizes of its different members?

6. What is meant by the Earth's orbit? Is it correct to describe it as circular? Draw a figure to represent it.

7. Where on the surface of the Earth is the speed due to rotation greatest? Where least? Why is this?

8. Why does the sun in its course appear to travel from east to west? Illustrate your answer by examples.

9. What other apparent movement has the sun?

10. Explain the phenomena of day and night

11. How is it that a lunar month is longer than the time of a complete revolution of the moon?

## MATHEMATICAL GEOGRAPHY.

13. **The Earth as a Globe.** Since the Earth is a star it is natural to suppose it like the sun, moon, and other stars in shape. This is the case. The Earth is round like a ball or orange, and its shape is therefore spherical or globular. But the Earth is not a perfect sphere. It is very slightly flattened at the points where its speed of rotation is least (the points $P$ and $P'$ in Fig. 6) and slightly enlarged where the speed of rotation is greatest ($AB$). A figure of this shape is called an oblate spheroid, or spheroid of revolution.

14. **Proofs of the Earth's Roundness.** (i.) If we watch a ship sailing away from land we see it gradually get smaller and finally disappear. But it does not disappear all at once. First

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[1] These questions are not intended to be exhaustive. They will suggest many others which may be asked by the teacher to enable him to satisfy himself that his pupils are getting an intelligent knowledge of the subject.

we lose sight of the hull, and then of the masts. Again, we see the masts of an approaching ship first, and afterwards the hull. In whatever part of the world we may be this is true. Now, if the Earth were flat, the solid hull of a ship would be visible at a much greater distance than the slender masts. Since this is not so we conclude that there is something between us and a distant ship which prevents our seeing the lower part of it. This "something" cannot be anything but the surface of the Earth, which must therefore be convex, that is formed as the outer surface of a body that is curved in shape. (ii.) In an eclipse of the moon the shadow of the Earth that is thrown upon it is always circular in outline. This could not be so if the Earth were not round. (iii.) The horizon[1] at sea or on a level plain, is always circular. If the Earth were not a globe this would

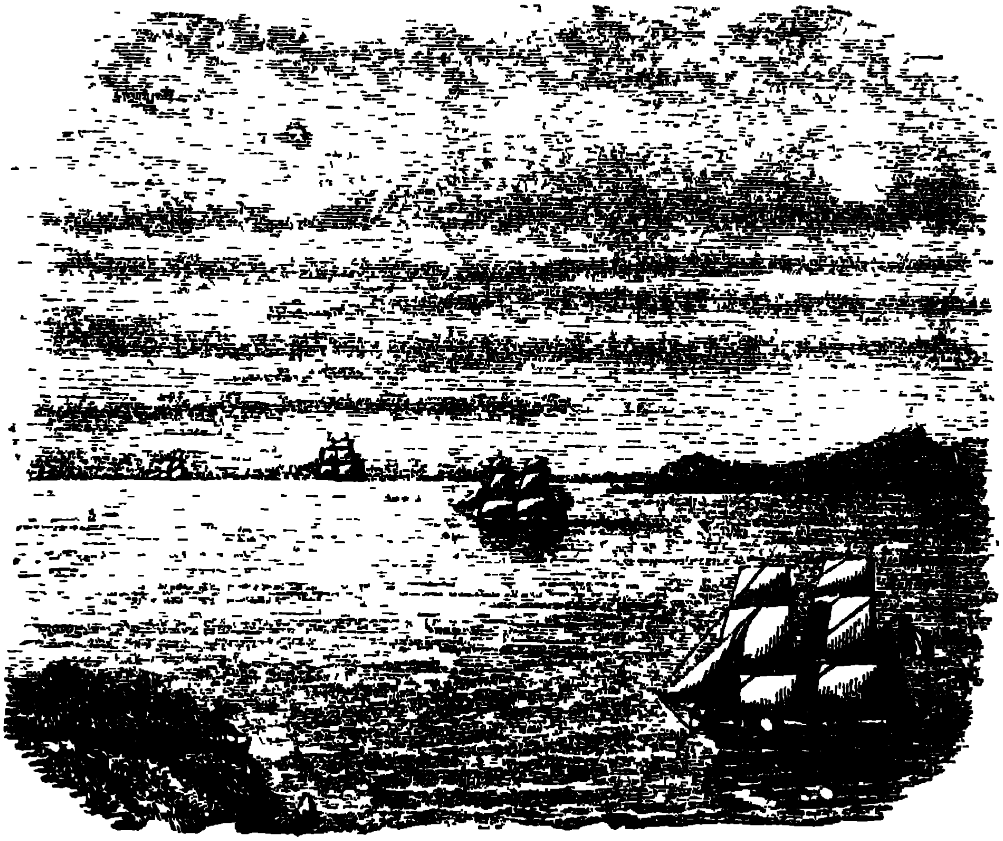

FIG. 7.—Ships at Sea.

[1] Gk. *horizein*, to limit. The circle *bounding* the view where earth and sky seem to meet.

not be so. (iv.) In travelling south the pole-star gets lower and lower; at the equator it is on the horizon, in the Southern Hemisphere it is invisible Some constellations visible in the Southern Hemisphere are invisible in the Northern Hemisphere, and *vice versa.* If the earth were flat we could not bring new stars into view by moving about on its surface (v.) The fact that it is day at some parts of the Earth when it is night at other parts proves that there is such a thing as "the other side of the world" The only satisfactory explanation of this is that the Earth is round.

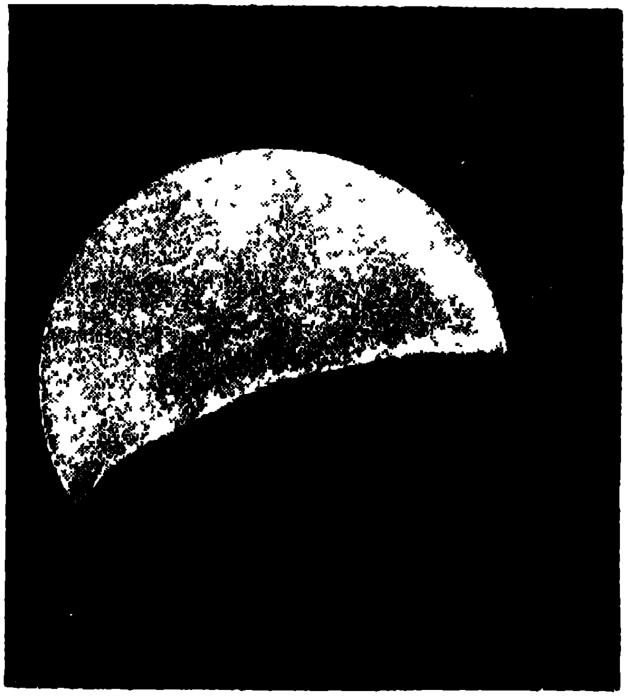

FIG. 8.—Eclipse of the Moon

15 **Size of the Earth. Axis, Poles, Equator.** In a perfect sphere all lines drawn through the centre to meet the surface at both ends are equal. Such lines are called **diameters.** As the Earth is not a perfect sphere its diameters are not all equal. The shortest diameter is the imaginary line *PP* (Fig. 6) about which the Earth rotates This line is called the Earth's **axis,**[1] and the ends of the axis, the points *P* and *P* are called the **poles.**[2] The pole facing the Pole-Star is called the **North Pole**; the one at the other end of the axis is called the **South Pole.**

The imaginary circle running round the Earth midway between the two poles, *AB* (Fig. 6), and dividing it into two equal halves or **hemispheres** is called the **Equator.**[3] The hemisphere containing the North Pole is called the **Northern Hemisphere;** the one containing the South Pole the **Southern Hemisphere.**

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[1] Lat. *axis*, axle, the pin on which a wheel turns

[2] Lat *polus*, pivot

[3] Lat. *aequare*, to make equal.

A diameter which ends both ways on the equator—an **equatorial diameter** - is the largest that can be drawn, because the earth bulges out at the equator. The Earth's equatorial diameter is about 7926 miles The length of the axis or **polar diameter** is nearly 7900 miles. The difference, about 26 miles, between the Earth's greatest and least diameters, is so small for such a large body as the Earth, that for all practical purposes we may take the earth to be a sphere

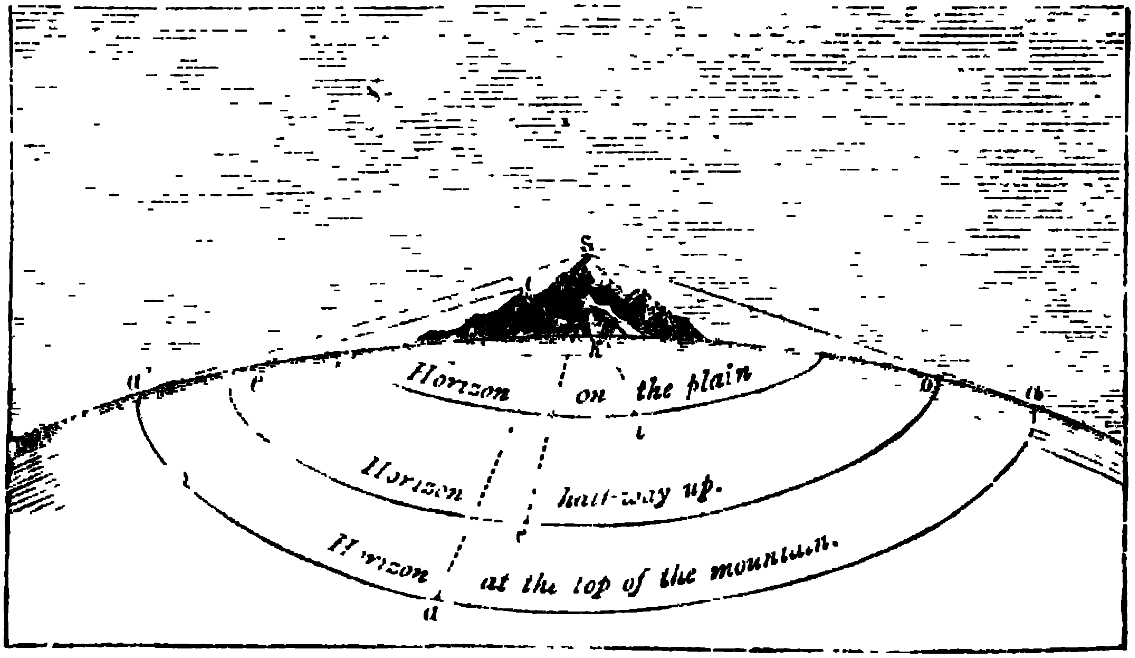

FIG. 9.

The length of the **equator** or the **equatorial circumference** of the Earth is 24,899 miles.

Any circle which, like the equator, divides the Earth into two equal hemispheres is called a **great circle** (§ 20), and we may take the circumference of any such circle, that is, the circumference of the Earth to be, in round numbers, 25,000 miles

16. **Antipodes.** When two points on the Earth's surface are diametrically opposite one another, that is, situated at the ends of a diameter, each is said to be the antipodes of the other. Thus the point *B* in Fig. 6 is the antipodes of *A*; the point *C* is the antipodes of *D*, and *vice versa.*

The antipodes of Calcutta are in the Pacific Ocean off Chile in

South America. The antipodes of Singapore are in the Andes, north-east of Quito. The antipodes of London are in the Pacific Ocean south-east of New Zealand.

17. **The Cardinal[1] Points.** The north pole of the Earth's axis points very nearly to the Pole-Star, in the direction we call **north.** If we take a needle which can be moved round like the long hand of a watch, and make it point due north, and then move it round to the right through a quarter circle, it will have turned through what is called a right angle, and be now pointing **east**—the direction in which the Earth is rotating If the needle be now moved through another quarter circle it will be in line with its original position, but will be pointing in exactly the opposite direction, or **south**—the direction of the sun at noon.[2] The needle has now been turned through two right angles. Another turn through a quarter circle and the needle will point **west**, exactly the opposite of east, and have been turned through three right angles Finally, another turn through a quarter circle will bring the needle to its original position. Thus the needle, in being moved round from its original position back to the same position, has pointed in every possible direction, including the four cardinal points--north, south, east, and west -and has described four right angles. A right angle is subdivided into 90 **degrees** (written 90°), so that the needle in making a complete revolution has turned through 360 degrees (360°)

If the needle had a dial below it like that of a watch, and if the circumference of the dial, instead of being divided into 60 equal spaces to show minutes of time, were divided into 360 equal spaces, each of these would serve to measure the turning of the needle through the angle of one degree, and the size of any angle through which the needle might be turned could be read off at once. For still smaller angular measurements a degree is subdivided into 60 **minutes** (60′) and the minutes into 60 **seconds** (60″). This way of measuring angles and of dividing the circumference of a circle is of great use in geography.

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[1] Lat. *cardinalis*, principal, chief.

[2] This is only true, always, of places lying north of the Tropic of Cancer.

The sun, in his journeyings between the Tropics of Cancer and Capricorn, is sometimes south, sometimes directly overhead, and sometimes north of places within the tropics. At Calcutta, which is just south of the Tropic of Cancer, the sun must be, for a few days in the year, a little north of the zenith, and shadows of objects will then fall south of them.

South of the Tropic of Capricorn, of course, the sun is always to the north at noon, never to the south.

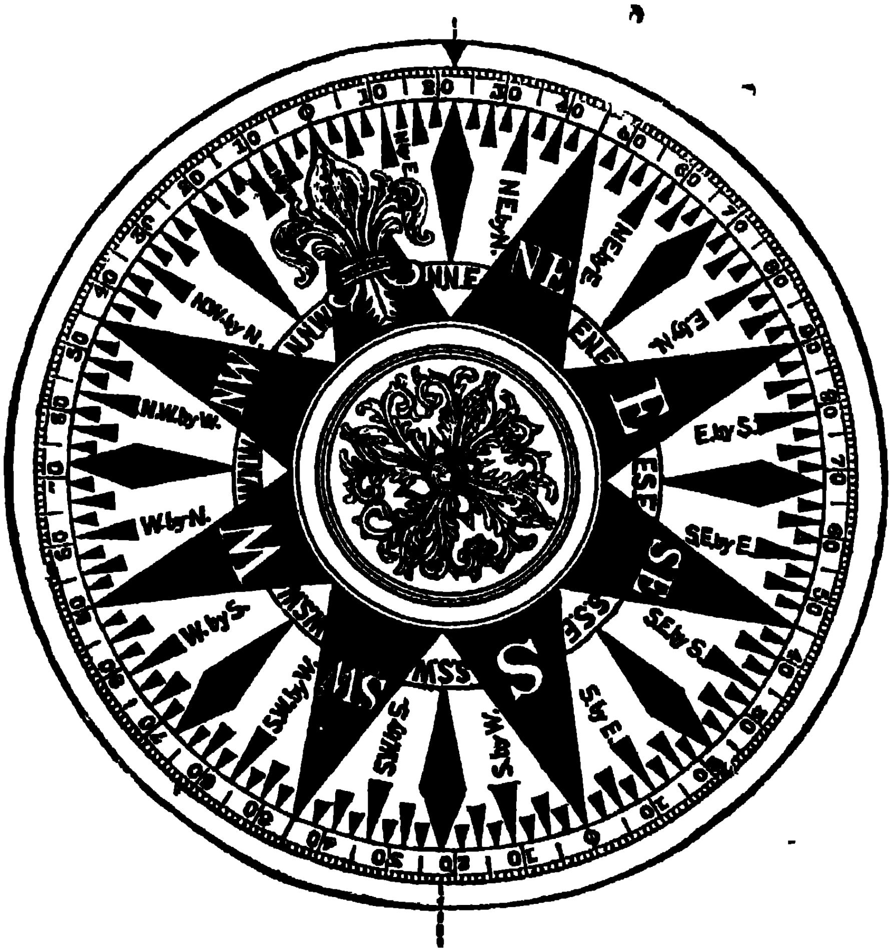

Fig. 10.—Compass Card

18. **The Mariner's Compass.** This instrument enables sailors to steer in whatever direction they wish, and makes them independent of sun or stars. It consists of a circular disc of cardboard or other material, on which the four cardinal points, North, South, East, and West, are marked Between each pair of cardinal points seven intermediate points are marked at equal intervals apart, making altogether the thirty-two "points of the compass." The edge of the circle is also divided into 360 degrees.

Hence there will be 360÷32=11¼ degrees between each two points of the compass. The disc is attached to a magnetic needle which is balanced on a sharp point, so that the disc can swing freely with the needle in a horizontal direction.

Now, a magnetic needle so suspended will, if left to itself, come to rest pointing north and south[1] If, therefore, the disc is so fastened to the needle that north on the disc is exactly over the north-pointing end of the needle, and south on the disc exactly over the south-pointing end of the needle, it is clear that all the other points of the compass will be true

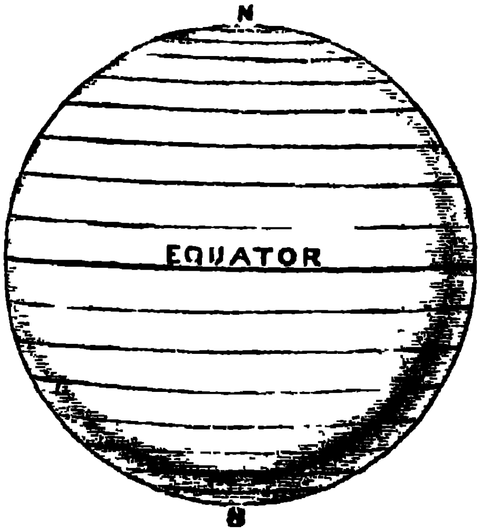

FIG 11 --Parallels of Latitude.

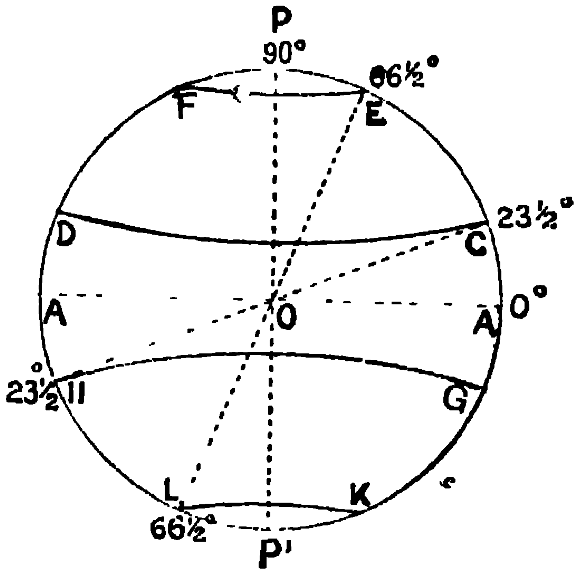

FIG 12.

On board ship the compass is enclosed in a box with a glass top, which is hung in such a way as to be unaffected by the pitching and rolling of the ship. Inside the box is a mark showing the direction of the ship's bow. If it is desired to steer in a particular direction, east, for example, the rudder is moved until the point *E* on the disc is in line with the mark above mentioned. The ship is then moving east. By the compass in Fig. 10 the ship is sailing north-north-east, or 22½° east of north.

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[1] A magnetic needle does not point true, or geographical north and south. Its direction varies slightly from place to place, and from year to year At present the compass needle at Greenwich points about 17° west of north, and at Calcutta 3½° east of north.

19. **Parallels.** These are imaginary circles drawn on the Earth's surface parallel to the equator The further they are from the equator the smaller they are, and it is clear that of all such parallel circles the equator is the only "great circle" (§15).

We can measure the distance of any parallel from the equator or the pole in degrees. The line *OA* (Fig. 12), joining *O*, the centre, with the point *A*, on the equator, turns through 90 degrees in moving round from *OA* to *OP*. Hence if we divide the part of the circumference from *A* to *P* into 90 degrees, we can read off the distance of any parallel such as *CD* or *EF*. Similarly for parallels like *GH*, *KL*, by dividing the circumference from *A* to *P′* into degrees.

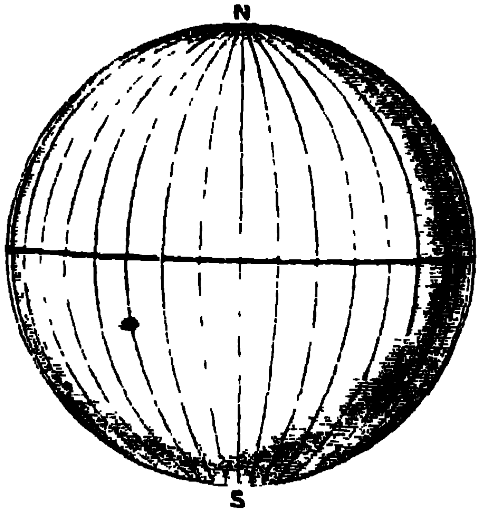

FIG. 13.—Meridians of Longitude

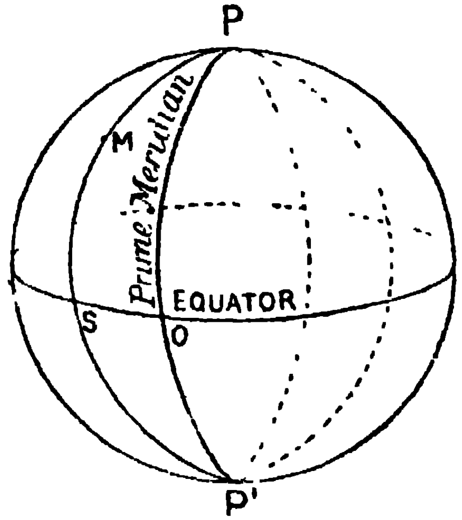

FIG. 14

The parallels 23½° from the north and south poles, or 66½° north and south from the equator, are called respectively the **Arctic** and **Antarctic Circles.** The parallels 23½° north and 23½° south of the equator are called respectively the **Tropic of Cancer** and the **Tropic of Capricorn** (§24).

20. **Meridians.** Another set of imaginary circles, called **meridian** circles, can be drawn round the Earth, each of which passes **through** the two poles, and is divided by them into two equal **parts**. These half circles running from the north pole to the

south pole are called **meridians**.[1] Each meridian is divided into two equal parts by the equator.

We can suppose any number of these meridians drawn, and might say that any point on the Earth's surface has its own meridian, because a circle could be drawn passing through that point on the Earth's surface and the two poles. In practice, however, the meridians are drawn at regular intervals apart. We must therefore have a first meridian, from which all the others may be measured and counted. The first or **prime meridian** used by England and most foreign countries is the meridian of Greenwich.

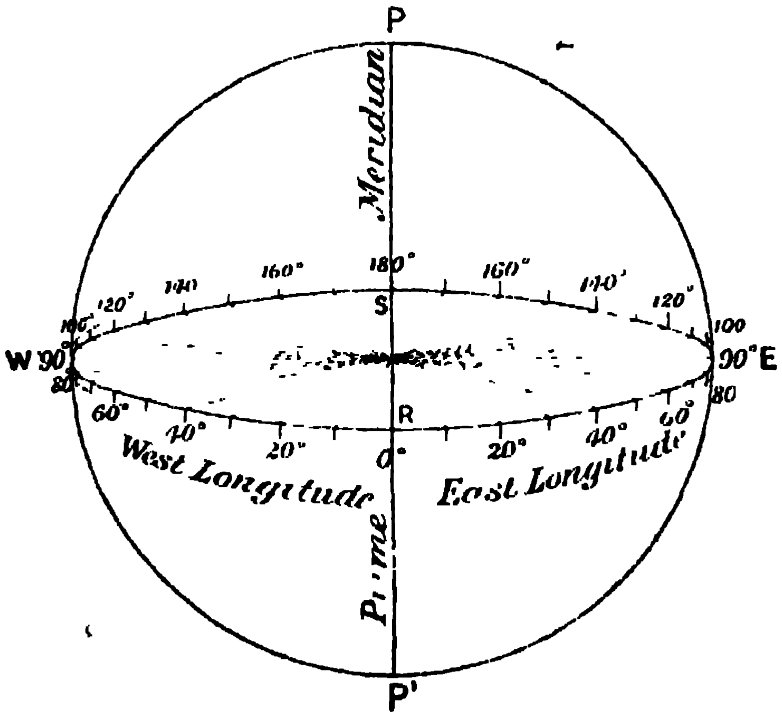

FIG 15.

The distance of any meridian from the prime meridian can be measured in degrees just as the distances of the parallels from the equator are measured. Unlike the parallels the meridian circles are all equal circles, while, like the equator, they are all great circles

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[1] Latin, *meridies*, mid-day: because all places on the same meridian have noon at the same time.

**21. How to determine the position of a place. Latitude and Longitude.** By means of the equator and the prime meridian we can fix the position of any place on the surface of the Earth. Suppose *M* (Fig 14) to be the place. We measure along the meridian of *M* its distance *MS* from the equator. This gives us the latitude of *M*. Again, we measure along the equator the distance *SO* between the meridian of *M* and the prime meridian. This gives us the longitude of *M*.

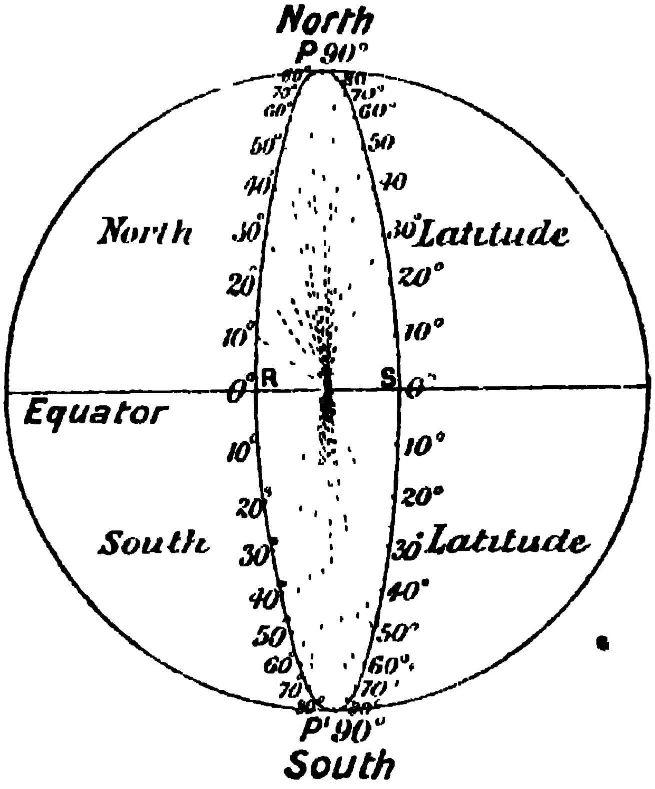


Fig. 15

Latitude and longitude are reckoned in degrees, minutes, and if necessary, seconds. The circle of the equator (Fig. 15) contains 360 degrees, and the length of one degree is, therefore, the equatorial circumference of the Earth divided by 360, about 69 miles. Now the equator is cut by the meridian circle of Greenwich into two equal parts, so that each half must contain 180 degrees. Counting from the prime meridian we reckon along the equator 180 degrees to the west of Greenwich, or west longitude, and 180 degrees to the east of Greenwich, or east longitude.

Again, the meridian circle $PRP'S$ (Fig. 16) is divided by the equator into two equal parts, $RPS$ and $RP'S$. These parts are themselves divided into halves at the poles $P$ and $P'$. We therefore reckon along the meridian 90 degrees of north latitude from the point $R$ on the equator to the north pole $P$, and 90 degrees of south latitude from the same point $R$ to the south pole $P'$ Similarly from $S$ to $P$ there are 90 degrees of north latitude and from $S$ to $P'$ 90 degrees of south latitude

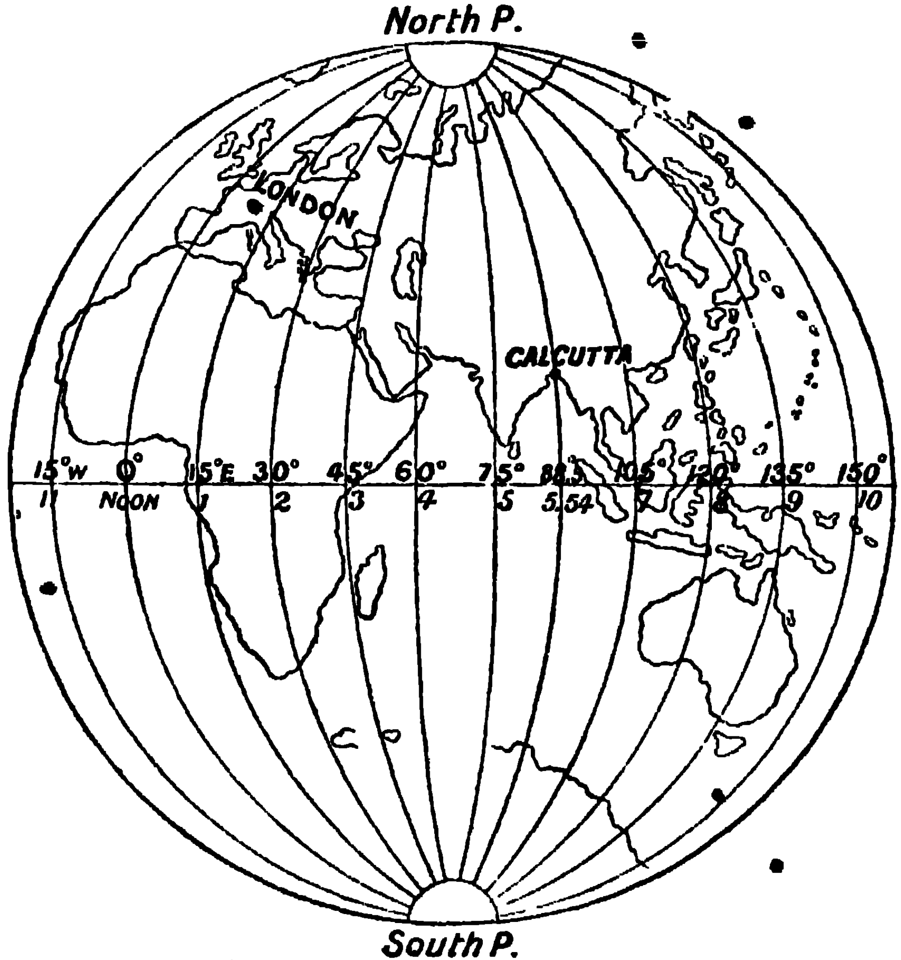
**Latitude,** then, is distance in degrees, measured north or south from the equator along a meridian. **Longitude** is distance in degrees, measured east or west along the equator from the prime meridian.

Latitude runs from 0° at the equator to 90° at the poles. Hence the nearer the poles the higher the latitude, and "high latitudes" are regions very far north or south.

Longitude runs from 0° on the prime meridian to 180° where the meridian circle again cuts the equator on the other side of the world, that is, exactly half-way round the world from the first meridian. A ship sailing westward round the world from London would cross every meridian of longitude from 0° at Greenwich to 180° W., and from 180° E. to 0°. 180° W. is the same meridian as 180° E

In order to give the **position of a place** we must state its latitute and longitude. For example, if we say that Calcutta is in lat. 22° N. and long. 88° E., we mean that Calcutta is situated where the 22nd parallel of north latitude cuts the 88th meridian of east longitude. If we wish to be more accurate, we may state the position of Calcutta in both degrees and minutes, namely, lat. 22° 34′ N., long. 88° 24′ E., and as the length of a minute on the equator is the nautical mile or **knot**, which is equal to 1·152 ordinary miles, it is plain that we have now given the position of Calcutta on the face of the globe with considerable accuracy.

The standard degree is the degree at the equator, which is 69 miles. The minute or knot is the 60th part of this, or 1·152 miles. The second is the 60th part of a minute—about 100 feet. Now, the parallels of latitude get smaller and smaller towards the poles, and as each of them contains 360 degrees, it is plain that the degrees of longitude become shorter the further north or south we go. For instance at Calcutta a degree of longitude is only about 53 knots instead of 60, as it is at the equator. This, however, causes no practical difficulty so long as we reckon in degrees, because the distance between any two meridians is *the same number of degrees* anywhere between the equator and the poles. As the meridians approach one another the length of the degree is less; the number of them is the same. Degrees of latitude are always 69 miles, because the meridians are all "great circles."



*"Time varies with Longitude"*

FIG 17

**22. Difference of time at two places of different longitude.** Every place on the same meridian has the same time. Thus, when it is noon at Calcutta, it is noon at every other place on the same meridian, from the north pole to the south pole.

At the antipodes of Calcutta, and at every other place on its meridian, from the north pole to the south pole, it is midnight.

Now the Earth, during a complete rotation, brings every point on its surface in succession into the position in which it is nearest the sun, that is, to the position in which it is noon at that place. Hence, during the 24 hours of the day, every one of the 360 degrees into which the equator is divided is, in succession, brought into this position, and, in order to find out the number of degrees which reach the position of noon during one hour, we divide 360 by 24, which gives us **15 degrees in one hour**, or one degree in every four minutes. Accordingly, when it is noon at Calcutta, it is 11 A.M. at a place 15° west of Calcutta; while at a place 15° east of Calcutta it is 1 P.M., because the rotation of the earth is from west to east.

Greenwich is 80¼° west of Madras, hence Greenwich time is $\frac{80\frac{1}{4}}{15}$ h., or 5 h. 21 m. behind Madras time. Adelaide, in Australia, is in long. 138° E., and therefore 58° east of Madras. Adelaide time is therefore $\frac{58}{15}$ h., or 3 h. 52 m. in advance of Madras time, and 9 h. 14 m. in advance of Greenwich time. Calcutta is 8° 5′ E. of Madras; accordingly, Calcutta time is $\frac{8^\circ\ 5'}{15}$ h = 33 m. in advance of Madras time. Bombay is 7° 26′ west of Madras, and its time is $\frac{7^\circ\ 26'}{15}$ h., or 30 minutes behind Madras time. In India Madras time is taken as the standard time, and the local time of places east of Madras is in advance of the standard time, while the local time of places west of Madras is behind it.

23. **How to find longitude.** If we know the longitude of a place we can find the difference between its time and Greenwich time. It follows that if we know the local time and the Greenwich time, we can find the longitude of the place. Local time is easily determined by observation of the sun. It is noon when the sun reaches its highest point, and throws the shortest shadow. And in these days Greenwich time can be telegraphed to many places all over the world. At sea, however, the navigator has to trust to chronometers for Greenwich time. These are very accurate time-keepers, which are

carefully set to Greenwich time before leaving port. Noon, then, being ascertained at the place whose longitude is to be determined, its difference from Greenwich time is taken. This difference, reduced to minutes, will, on being divided by four, give the longitude in degrees, for, as we saw in §22, time varies four minutes for each degree of longitude.

Thus, the difference between Calcutta time and Greenwich time being 5 h. 54 m., the longitude of Calcutta is $\frac{354}{4}$ or $88\frac{1}{2}^\circ$ E.

24. **Difference in the length of day and night. The Seasons.** The Earth's movement round the sun takes place in the same plane, that is, the Earth moves round the sun as though it were a ball floating on a still sheet of water revolving regularly round another floating ball (Fig. 18). Now, a matter of great importance is the position of the Earth's axis with regard to its plane of revolution, for upon this the length of day and night, and the different seasons of the year, depend.

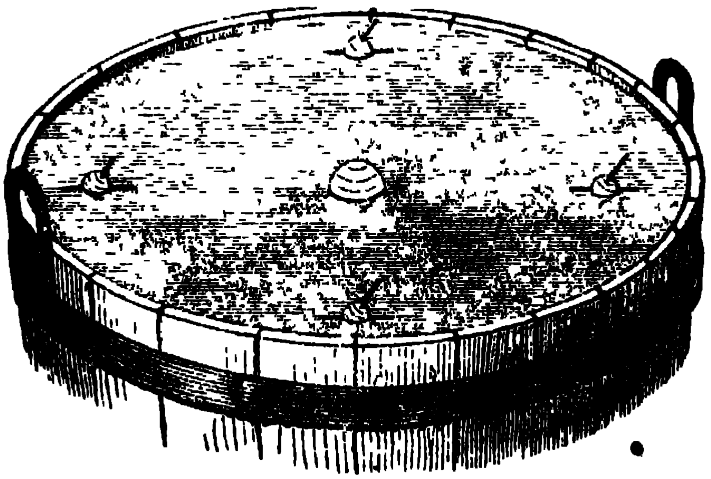


FIG 18.

Suppose, for example, that the Earth's axis were always at right angles to the plane of revolution In this case day and night would be of equal length everywhere all the year round, and we should have no change of season. That this is not so is due to the fact that **the axis of the Earth is not perpendicular to the plane of revolution, but inclined to it at an angle less than a right angle,** as shown in Fig. 18. The axis, too, always points in the same direction. Hence the north pole, during the Earth's annual journey round the sun, is sometimes inclined towards the sun and sometimes inclined away from it. And when the north pole is inclined towards the sun, the south pole must be inclined away from it, and *vice versa.*

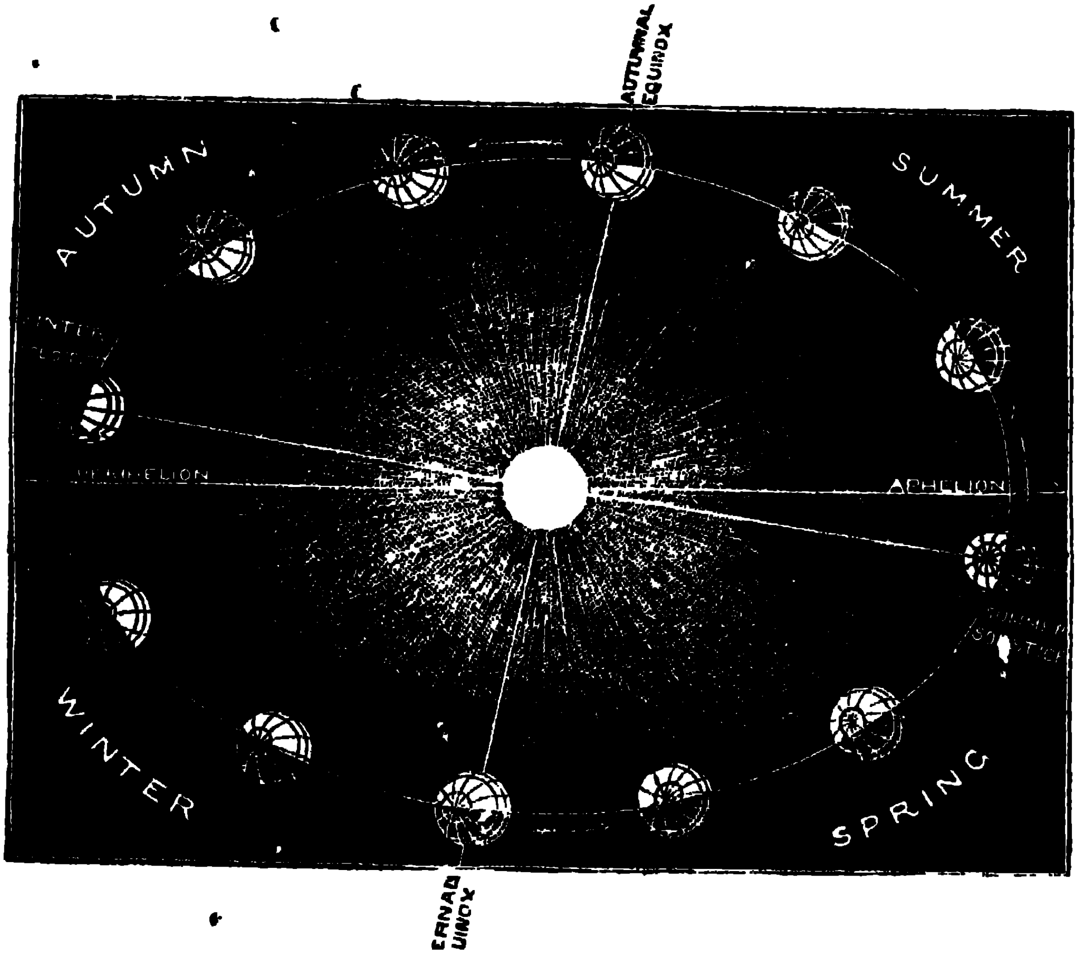


FIG 10.

The result of these conditions is that when the north pole is inclined towards the sun the northern hemisphere gets more light than shade; the days are longer than the nights. When the north pole is inclined away from the sun the northern hemisphere gets more shade than light, and the nights are longer than the days. In the southern hemisphere the reverse is the case.

These changes in the position of the Earth's axis with regard to the sun take place gradually throughout the year, and twice a year the position of the axis is such that both the northern and southern hemispheres are on equal terms with regard to the sun's rays. Day and night are then of the same length all over the world. One of these periods is called the **vernal** or spring **equinox,**[1] and the other the **autumn equinox.** After the vernal equinox (March 20th) the days in the northern hemisphere gradually get longer, until about June 21st they are at their longest. Then they shorten until the autumnal equinox (Sept 22nd), after which the nights are longer than the days. Towards the end of December the days are at their shortest In January they begin to lengthen again. In the southern hemisphere the reverse of this is the case . mid-summer is in December, mid-winter in June

These changes in the relative duration of day and night correspond with certain apparent movements of the sun, which are also due to the changes in the position of the Earth's axis. During the first half of the year the sun mounts higher in the sky every day. At the vernal equinox he is directly overhead (in the zenith [2]) at noon to people on the equator. On June 21st, he shines vertically on the Tropic of Cancer Here he seems to pause for a few days, and hence this time of year is called the **summer solstice** [3] He then turns back [4] and begins to go south. At the autumnal equinox he is again over the equator. On December 22nd he is vertical over the Tropic of Capricorn. It is then midsummer in the southern hemisphere and midwinter in the northern hemisphere. The sun pauses over the tropic, and we in the northern hemisphere have the **winter solstice.**

To the movements thus described, which will be understood by a study of Figure 19, are due the seasons of the year. As the figure shows, at the vernal equinox the line dividing light from shade passes exactly through both poles, so that every point on the Earth's surface has twelve hours of sunlight, and twelve hours of shade. As spring advances the northern hemisphere is more and more illuminated, until at the summer solstice, the Arctic Circle rotates in sunlight for the whole of the twenty-four hours, and has no night. Then the amount of illumination begins to decrease. At the autumnal equinox sunlight just reaches both poles After that the north pole is in darkness, and the area of darkness increases until, at the winter solstice, the whole of the Arctic Circle has continuous night. With the new year light again reaches the Arctic Circle, and the lengthening days bring the year round again to the vernal equinox.

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[1] Lat , *æquus*, equal ; *nox*, night.

[2] From the Arabic, meaning "the way overhead" · the point opposite to the *nadir*, which is the point directly under foot.

[3] Lat. *sol*, sun ; *sistere*, to make to stand still.

[4] The tropics (Gk *tropos*, a turn) are so called because they are the lines which mark the limits of the sun's northward and southward journeyings.

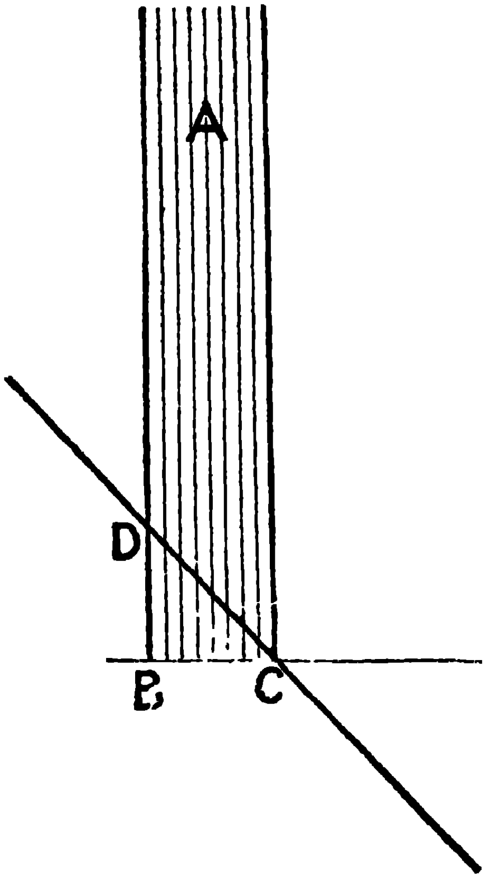

FIG. 20

25. **The heating power of the sun's rays.** As we have seen, every place in the tropics has the sun vertically overhead twice

a year. Outside the tropics the sun is never in the zenith, but during summer it is higher than in winter, and its rays are therefore more vertical and give more heat.

Fig. 20 shows how it is that vertical rays have a greater heating effect than rays that are not vertical. Let *A* represent a beam of sunlight, and suppose it falls vertically on the earth's surface. Then *BC*, the portion of the ground on which it falls, will be at right angles to the rays of light. Now suppose the same beam does not strike the earth vertically. Then the portion of ground on which it falls will not be at right angles to the rays, but will be oblique to them, as *CD*. We know by geometry that *CD* is greater than *BC*.

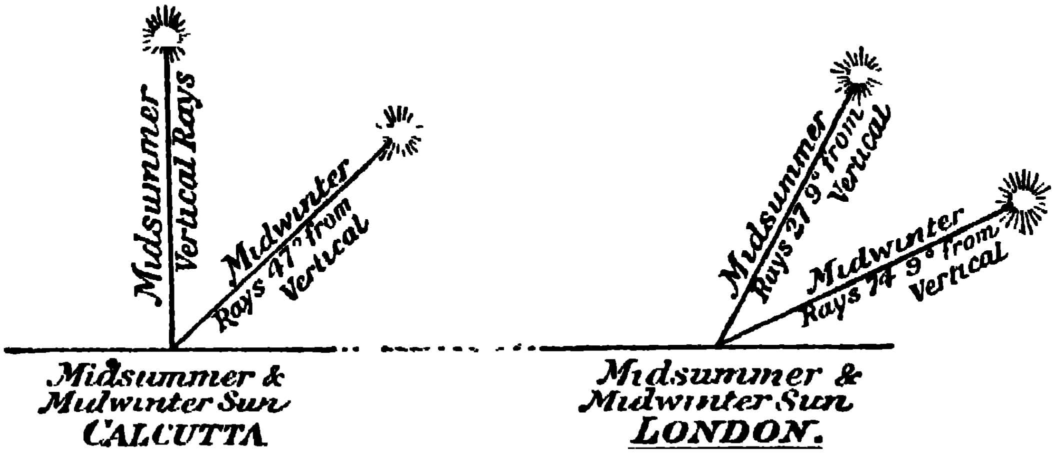
Midsummer Vertical Rays
Midwinter Rays 47° from Vertical
Midsummer Rays 27° 9' from Vertical
Midwinter Rays 74° 9' from Vertical
Midsummer & Midwinter Sun CALCUTTA
Midsummer & Midwinter Sun LONDON.

FIG 21

Therefore the same number of rays is, in the latter case, spread over a greater surface, and will heat the ground less. Fig. 21 shows the angles made by the rays of the midsummer and the midwinter sun at Calcutta and London respectively. It explains why it is hotter in summer than in winter in both places, and why Calcutta is hotter than London.

26. **Temperature and Latitude.** It appears, then, that the temperature of a place greatly depends upon the degree in which the sun's rays approach the vertical at that place. It also appears that the sun's rays are more vertical in the tropics than outside the tropics

Fig. 22 shows the direction of the sun's rays at the equinoxes, when they are vertical at the equator. It is plain that between *C* and *D*, along a belt of the Earth's surface extending some way on both sides of the equator, the sun's rays are very nearly vertical From C to N and from D to M they are much less vertical. From N to P and from M to P they are very oblique. Hence, as we travel from the tropics towards the poles, the sun's rays become less vertical, and, in consequence, have less heating power.

27. **Zones[1] of Climate.** It is usual to divide the Earth's surface into five belts or zones of climate The Tropic of Cancer, 23½° north of the equator, and the Tropic of Capricorn, 23½° south of the equator, mark off that part of the Earth's surface within which the sun is always somewhere vertical. This is the hottest region of the Earth, and is called the **Torrid[2] Zone** (Fig. 12).

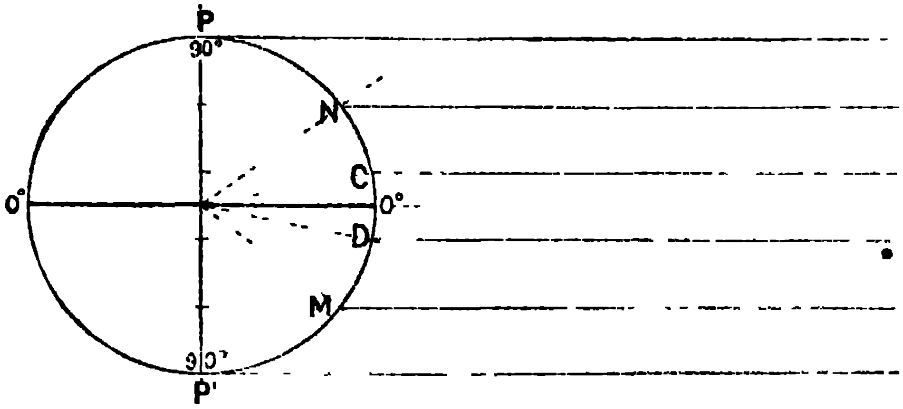

Fig 22.

The Arctic Circle, 23½° from the North Pole, and the Antarctic Circle, 23½° from the South Pole, cut off those parts of the Earth's surface in which, at some time of the year, there is no sun at all. These are the **Polar Regions**, the coldest parts of the Earth, and are called respectively the **North Frigid Zone** and the **South Frigid[3] Zone.**

Between the Arctic Circle and the Tropic of Cancer is the **North Temperate Zone**, and between the Antarctic Circle and the Tropic of Capricorn is the **South Temperate Zone**, which have, as their names imply, a more moderate climate

But the true boundaries of the zones of climate are not the tropic and polar circles, which are mere geometrical lines, but isothermal lines (§ 51).

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[1] Gk. *zone*, a girdle. [2] Lat. *torridus*, parched. [3] Lat. *frigidus*, cold.

## MAPS.

28. Since the Earth is round there is only one way of representing it exactly, and that is by a model upon a small scale. Such a model, called a **globe**, is of the greatest use in enabling us to study the different geometrical lines supposed to be drawn upon the Earth's surface, and the true shapes, sizes, and relative positions of the masses of land and water that cover the Earth.

But for ordinary use maps are more convenient. A **map** is a representation upon a flat surface of the geographical features of the Earth, or of some part of it. Of course the representation of the surface of a sphere upon a flat piece of paper must be more or less inaccurate, and the larger the part of the Earth's surface represented the greater the error. Map makers have devised various ingenious methods of preparing maps in which the error shall be as small as possible. Such methods are called **projections**, because a picture of each point on the globe is projected or thrown forward on a piece of paper lying below it, or wrapped round it, so as to produce a map on a surface which is flat, or which can be unrolled so as to be made flat.

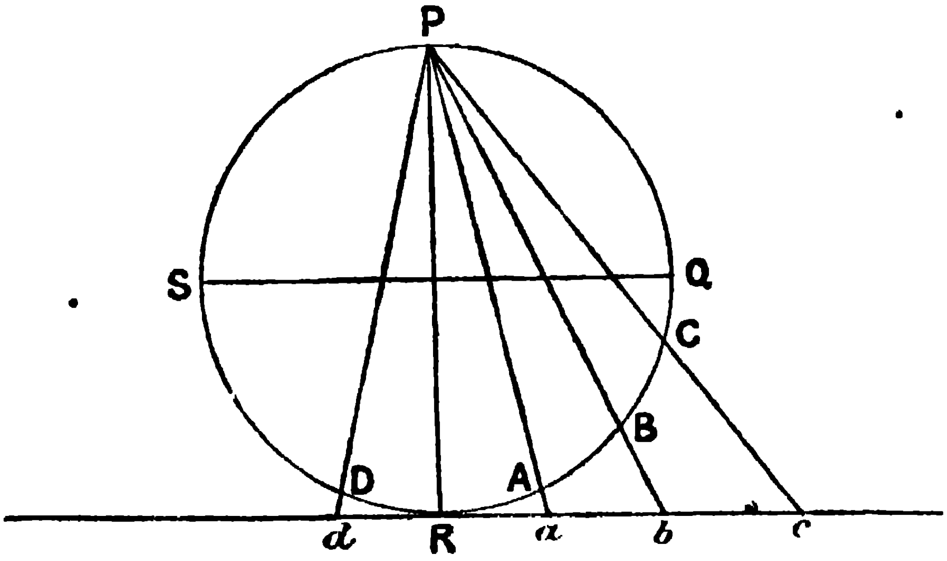


FIG 23

In Fig. 23, which illustrates the principle of what is called the **Stereographic Projection**, *PQRS* represents a section of the globe, *dRc* the paper placed below it. *A*, *B*, *C*, *D* are points on the globe. The lines *PA*, *PB*, *PC*, *PD* are produced to meet the paper in the points *a*, *b*, *c*, *d*. These points *a*, *b*, *c*, *d* are the projections of the points *A*, *B*, *C*, *D*. If *C* marks the position of Calcutta on the globe, then *c* will mark its position on the map. Obviously the map will only be quite correct at the point *R*, where the paper touches the globe. The further away we go from *R* on each side of it the greater the error becomes, because if *RA*, *RD*, *AB*, *BC* are equal, *ab* is greater than *Ra*, and *bc* is greater than *ab*. That is, equal surfaces on the globe are represented by unequal surfaces on the map.

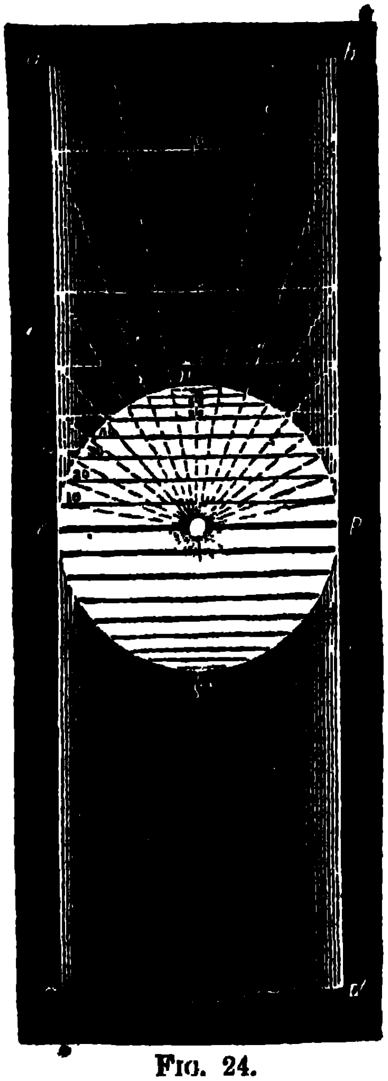


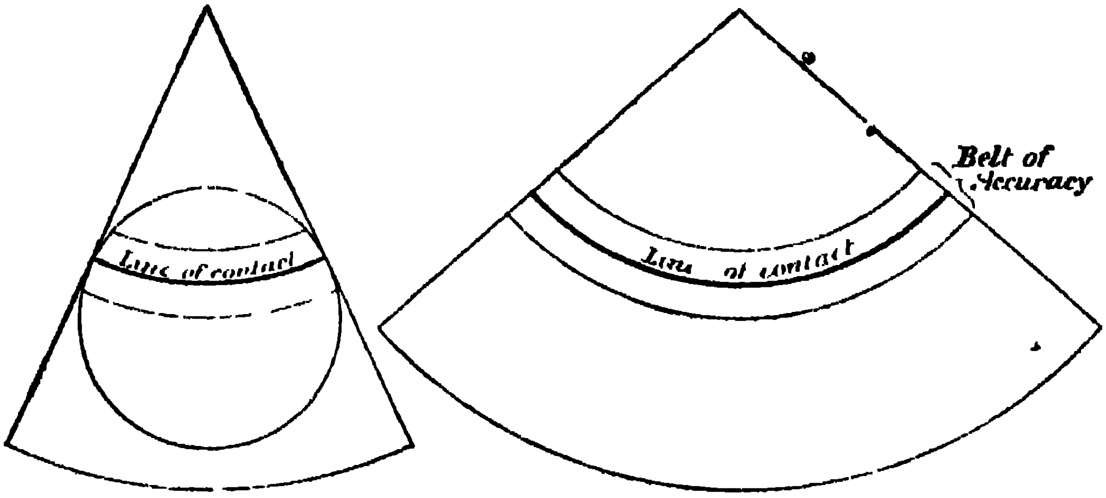
FIG. 24.

A modified form of this projection is generally used for maps of the world in hemispheres. The eastern and western hemispheres, as represented in atlases, are obtained by dividing the globe along the meridian circle which passes through Ferro in the Canary Islands (long 17° 39′ W.). This projection is also sometimes used for maps of continents.

One of the most famous projections is that published by **Mercator** in 1569, which gives the whole world in a single map. It belongs to the class of what are called **cylindrical projections**, because a piece of paper is supposed to be wrapped round the globe in the shape of a cylinder, and the different points on the globe projected on to it. The paper being unrolled, we have a map of the world. As will be seen from Fig. 24, the parallels of latitude become straight lines at ever-increasing distances apart; the meridians of longitude become equidistant straight lines.

The nature of Mercator's map will be understood from the following explanation. If we look at an ordinary geographical globe, we shall see that its surface is made up of triangular pieces of paper called gores, with their bases on the equator and their vertices at the poles. Suppose we stripped off these gores and pasted them side by side on a flat piece of paper, on each side of a line drawn to represent the equator. We should then have a continuous map only along the equator, and the gaps between the gores would get wider and wider towards the poles. Now, if we could stretch the gores in an east and west direction until the gaps were closed up we should have a continuous map. But, except close to the equator, the whole surface would be distorted and made to measure far too much from east to west. And the further from the equator the greater would be the distortion, with the result that directions on such a map would be false To correct this the gores must also be stretched to a proportionate amount in a north and south direction. We should then have a map in which directions would be true for all points of the compass, and the shapes of countries correct. But areas would be greatly exaggerated, especially towards the poles.

Such a map is Mercator's Projection It is invaluable to sailors, because a ship's course can be laid down on it by simply drawing lines from one point of sailing to another. The directions of these lines give the course on which the vessel is to be steered. On the other hand, countries in high latitudes are shown much too large, as may be seen by comparing the countries bordering the Arctic Ocean on a globe, and in a map on Mercator's Projection which is on the same equatorial scale as the globe.



*Cone on Globe* *Cone unwrapped*

FIG. 25.

**The Conical Projection** is another form of projection which is of great use. We suppose the paper wrapped round the globe in the shape of a cone, so that when unwrapped it gives a fan-shaped map. The line round the globe where the cone *fits* it is plainly the line of perfect accuracy, for along this line the paper coincides with the surface of the globe. Moreover, for some distance on each side of this line, the error caused by projection is not great. Hence, when the paper is untwisted, we get a map which is very fairly accurate for a belt of country on either side of the touching line, and we can adjust the size of the cone so that the touching line shall coincide with any parallel of latitude except the equator. We are thus able to get very good maps of areas that do not extend very far on each side of the touching line, and this projection is the one which is used for the maps of countries in atlases. The touching line is arranged to pass through the middle of the country to be mapped. For large countries like Russia or India, and for continents, a modified form of this projection is used.

29. **Scales.** Every geographical globe is made to scale, that is, its size is a known fraction of that of the earth. Hence it is easy to find the distance from one place to another by measuring it upon a globe. For instance, suppose the globe is $\frac{1}{40,000,000}$ of the size of the earth, then one inch on the globe represents 40,000,000 inches, or 628 miles on the earth. The scale of the globe is then said to be 1 : 40,000,000, or 628 miles to the inch.

As we have seen, maps of the world or of the hemispheres are necessarily distorted. A scale of miles is of little use with such maps. For a map on Mercator's Projection a scale of miles would only give correct results near the equator.

But maps of smaller areas can be made to scale with near approach to accuracy. Such is the case with the maps of the different parts of India published by the Survey of India, and with the maps of the English Government Survey. In the English maps of an inch to the mile, one inch on the map represents one mile, or 63,360 inches, in nature. Hence the map is $\frac{1}{63,360}$ of the size of the area it represents. The sheets of the Indian Atlas, published by the Survey of India, are on a scale of 1 : 253,440, $\frac{1}{253,440}$ of nature, or four miles to the inch, since four miles contain 253,440 inches. Maps of continents in an ordinary atlas would be on a scale of about 1 : 40,000,000. The plan of a town, like Calcutta, would be on a scale of about 1 : 500[illegible]

30. **Representation of relief or differences of level.** The rise and fall of the ground may be shown in maps by **hachures**, or shading in which the lines are made thicker and closer as the ground is steeper (Fig. 27), or by **contour lines** (Fig. 28). Differences of level on a large scale may be shown by colouring the map differently for different heights above sea-level.

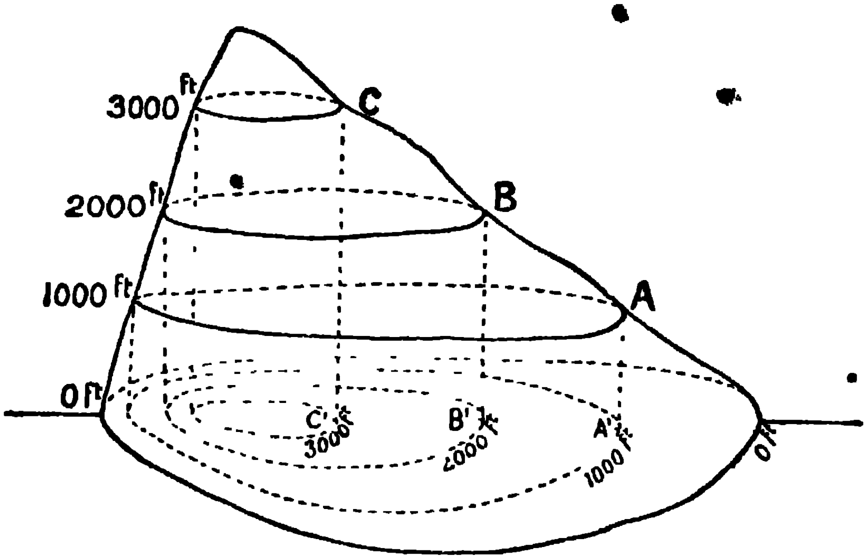
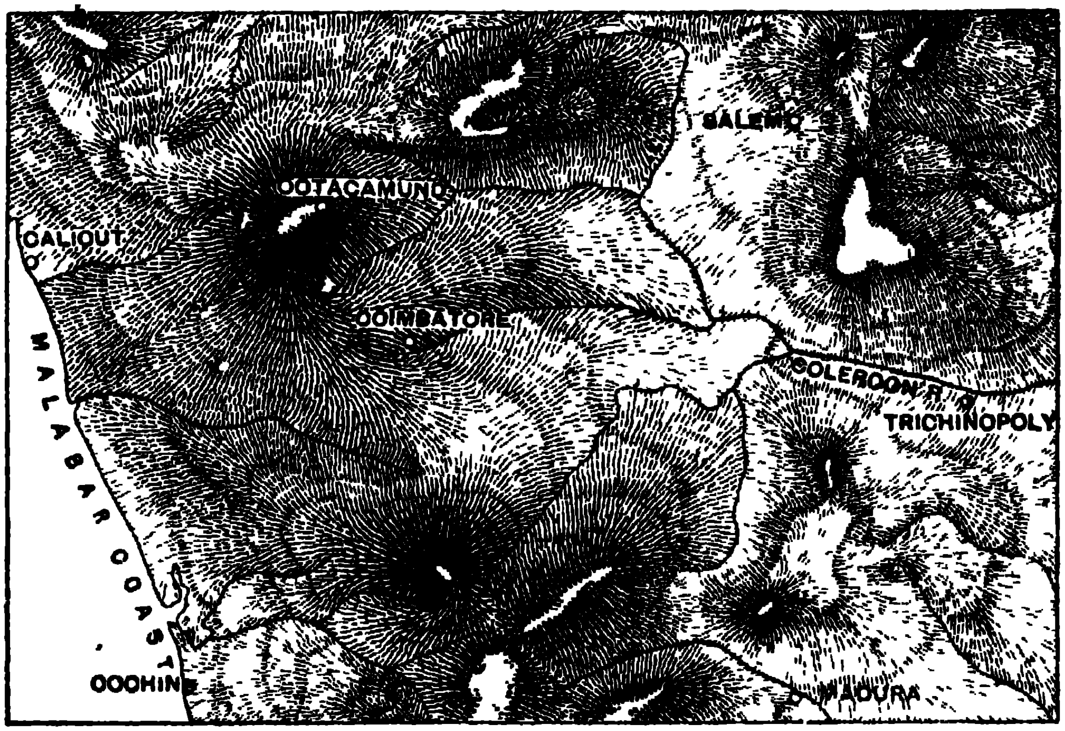
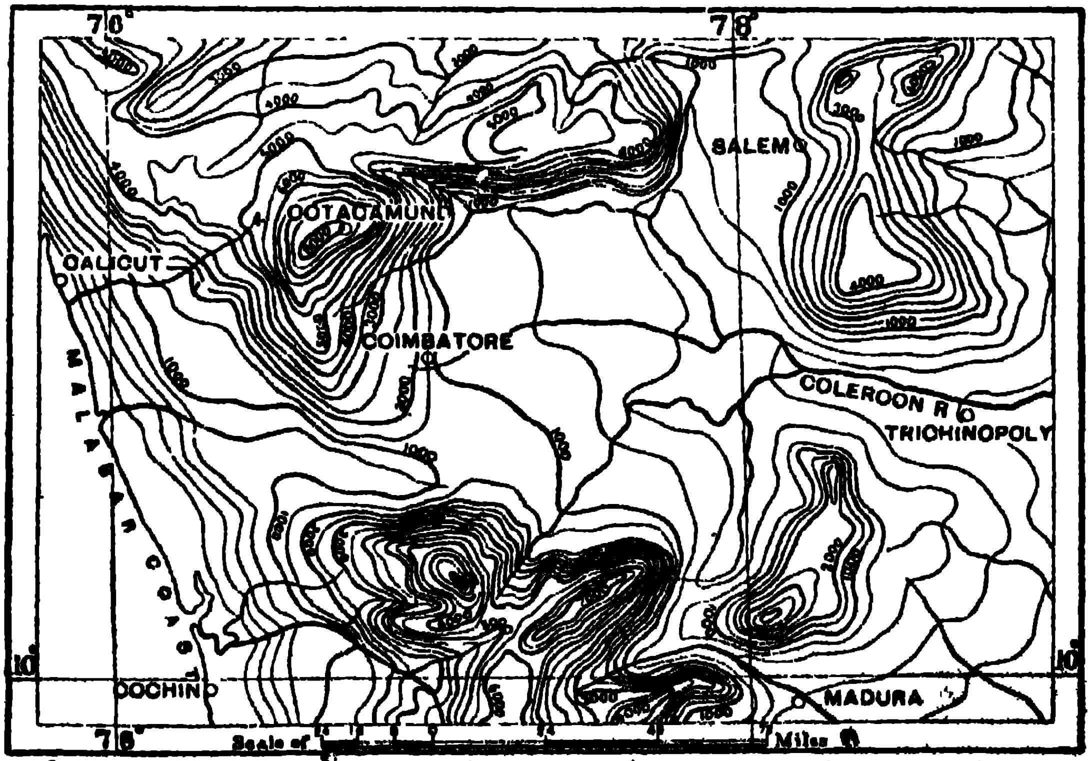


Fig 28 – How contour lines show relief

Contour lines are lines on the map joining points which are at the same height above sea-level. Beginning from the coast or from the boundary of a country, the first contour line joins points at a certain height above sea-level. The next contour line joins points which are at a certain higher level, and so on. Hence contour lines are nearest together when the ground is steepest, and widest apart when the ground is nearly level. In Fig 28 the contour lines indicate differences of 200 feet of level up to 1000 feet of height; above 1000 feet they indicate differences of 500 feet. Such a map shows what the result would be if the country represented were flooded to heights, successively, of 200, 400, . 1000, 1500, 2000, etc., feet, and if the lines showing the extent of each flood were marked on the map. Had the country depicted in the map been flooded to a depth of 8000 feet no land would have been left except a small island above Octacamund, whose coast line would be the 8000 feet contour line.



PART OF SOUTHERN INDIA—(Relief shown by hachures).



*Note The Contours below 1000 ft have been calculated at 200 ft apart taking the Coast line at 0 and those above at intervals of 500 ft*

PART OF SOUTHERN INDIA—(Relief shown by contours).

FIGS. 27, 28.

### QUESTIONS.

1. If you had a perfectly round ball of soft clay, what would you do in order to make it represent correctly the shape of the Earth? How would you insert a piece of straight iron wire to represent the Earth's axis? Where would you mark the equator?

2. How can the rotundity of the Earth be proved

(*a*) From a ship at sea?

(*b*) From the apparent movement of the pole-star?

(*c*) From the difference in the time of sunrise at different places?

(*d*) From the eclipses of the moon?

3. What is meant by the Earth's diameter? Where is the Earth's circumference greatest? What is a "great circle"?

4. What do we mean by the antipodes of a place? Find from a globe the approximate antipodes of Pekin, St. Petersburg, the Sandwich Islands.

5. What do we mean by the cardinal points? What is the simplest way of finding them? In what direction does a man's shadow point at sunset on the 20th of March?

6. How are angles measured? What angle is there between the directions east and north-east, south-west and north-west, north-north-west and east-north-east?

7. How many degrees are there between the two tropics? How many degrees is it from the North Pole to the Tropic of Capricorn?

8. How many degrees are there between the meridian of Greenwich and the meridian which passes through the antipodes of Greenwich? How many between Calcutta and a place one-quarter of the circumference of the globe due east of Calcutta? Why are the meridian circles all great circles?

9. Give to the nearest degree the latitude of St. Petersburg, Rome, Trinidad, Mauritius, and Melbourne (Australia), and the longitude of Mecca, Havre, Colombo, the Sandwich Islands, Johannisburg.

10. The latitude of Calcutta is 22½° N.; its longitude, 88½° E. Find the latitude and longitude of its antipodes. (Ans. lat. 22½° S., long. 92½° W.)

11. The latitude of Genoa is 44¼° N., longitude 55⅓° E. Find the latitude and longitude of its antipodes.

12. Cape Town is in lat. 36° 56′ S., long. 18° 28′ E.; explain fully what this means.

13. The distance from London to Shanghai by the Suez Canal is greater than the distance between the same places by the Canadian-Pacific route, although by the latter route nearly twice as many degrees of longitude are traversed. How is this?

14. If it is noon in London, what o'clock will it be at St. Petersburg (about 30° E.), and at New Orleans (about 93° W.)?

15. The result of a cricket match played by an English eleven at Melbourne (Australia) in longitude 145° E., which finished at 6 P.M., was known in London early in the same afternoon. Explain this?

16. When it is noon at Bombay what time is it at Peking?

17. If it is 6 P.M. at a given place when it is midnight at Greenwich, what is the longitude of the place?

18. What would be the result if the Earth's axis always pointed directly towards the sun?

19. At a place within the Arctic Circle a certain day in April is 16 hours long. What will be the length of the day at the antipodes of the place in the Antarctic Circle?

20. Why are winter days so short?

21. Why are the tropics so called?

22. When are shadows shortest at noon in Calcutta? When are they longest?

23. Describe the apparent course of the sun throughout a midsummer day to an observer (*a*) at Quito, (*b*) at the North Pole.

24. At what times of year does the sun rise due east and set due west?

25. In what direction do shadows point at noon in New Zealand?

26. On what does the difference of temperature at the different seasons of the year depend?

27. Why is land that slopes towards the south more heated by the sun's rays than land which slopes towards the north?

28. Account for the greater heating effect of the sun's rays in low latitudes.

29. Distinguish the five zones of climate.

30. Explain clearly why a map of a large part of the Earth's surface cannot be correct.

31. What are projections? Mention some projections in common use, and explain how they are obtained

32. In a map on Mercator's Projection Greenland appears to be almost as large as South America, whereas it is not much more than one-tenth the size. How is this?

33. What is the exact meaning of the statement that a map is drawn to the scale 1 : 1,250,000? How many miles to the inch is this?

34. Explain why the scale of miles attached to the map of a large continent cannot be used for measuring long distances in all directions upon that map.

35. How is the relief of land indicated in maps?

36. Draw contour lines, 200 vertical feet apart to represent a hill 800 feet high with two peaks, one rising to 1000 feet, and the other to 1200 feet (Scale one inch to the mile. Base of the hill, 3 miles by 1½ miles.)

37 On the scale of two inches to the mile, draw three miles of straight road. Show by contour lines, 50 vertical feet apart, a regular rise of 200 feet in the first mile, a rise of 500 feet in the second mile, then half a mile of level, followed by a fall of 100 feet in the last half mile.

## PHYSICAL GEOGRAPHY.

### The Crust of the Earth.

31. **How the Earth was formed.** The Earth is believed to have been originally a mass of glowing gas, turning round on its axis, and revolving round the sun Ages must have passed before this mass could have been sufficiently condensed by cooling to anything at all like its present state. But, eventually, as we know, it became a globe with a solid crust.

From the gradual rise of temperature experienced as we go down mines, and from the existence of hot springs and volcanoes, we know that the interior of the Earth must still be very hot; but what the actual present condition of the interior is, whether liquid or solid, we do not know. We are only practically acquainted with a small portion of the solid outer crust.

32. **Rocks.** The Earth's crust is composed of the material which we call rock. The original crust of the Earth must have been formed by the solidification of the molten matter on the surface of the cooling globe, and some of the rocks forming the present crust of the Earth have clearly once been melted by the internal heat of the Earth. Such rocks are called **igneous** rocks. Granite, lava, the *trap* rocks which form the greater part of the Deccan are examples.

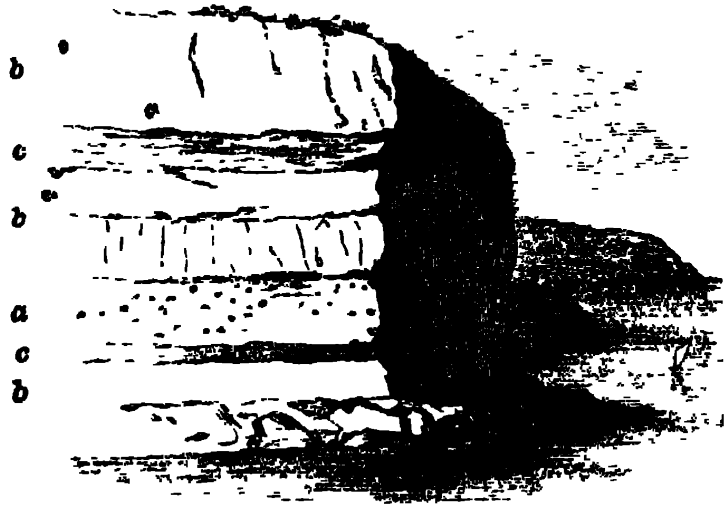


FIG. 29.

But from the earliest times the Earth's crust has been subjected to incessant wear and tear by water and other natural agencies. The original igneous rocks were in great part broken up, reduced to a state of fine division, and deposited in this condition in salt or fresh water. Successive layers of this sediment produced in time deposits of great thickness, which were hardened by pressure into rock. Rocks formed in this way are generally called **sedimentary** (formed from *sediment*), sometimes **aqueous** (because formed in *water*), sometimes **stratified**

FIG. 30.

(because formed in *layers*) (*a*, *b*, and *c*, Fig. 29) Sedimentary rocks compose the greater part of the present crust of the Earth Sand-stone (sand rock) and shale (clay rock) are examples.

The remains or traces of plants and animals are often found in sedimentary rocks, and are called fossils (Fig 30). Chalk and some kinds of limestone are sedimentary rocks which are almost entirely composed of the remains of small marine animals.

In some cases rocks which were originally igneous or sedimentary have been *altered in character* by the action of heat or pressure Such altered rocks are called **metamorphic.** Slate (altered clay), marble (altered limestone), and gneiss (sometimes an altered granite) are examples Gneiss is the commonest rock in the Himalaya, and in Southern India

**33. Irregularities of the Earth's crust.** In the early periods of its history the Earth's crust was subject to great disturbances. As the Earth cooled it naturally got smaller, and the solid outer crust was forced to contract itself into smaller space. In doing this it became full of folds and wrinkles, like a coat that is too big for its wearer. Portions of the crust were thus thrust up into mountain ranges, and in other parts deep hollows were formed which filled with water and became oceans. Hence we find sedimentary rocks, which we know must have been formed under water, thousands of feet above sea-level, with their strata tilted, bent, and broken in every possible way (Fig. 31) We find igneous rocks breaking through sedimentary rocks in a way that shows that the matter of which they are composed was forced

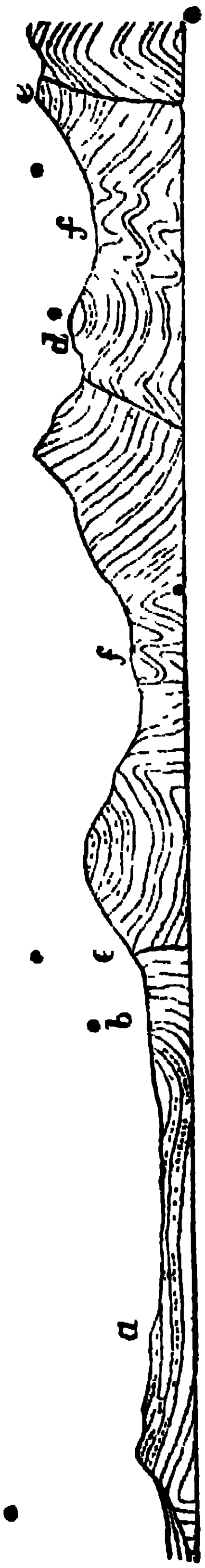


Fig. 31.—Section of hills near Simla, showing disturbance of strata. *a*, horizontal strata; *b*, vertical strata; *d*, *e*, fractured strata; *f* contorted strata.

up in a melted condition from the interior of the Earth (Fig. 32). In fact, rocks of all kinds are distributed in the most irregular way over the face of the earth.

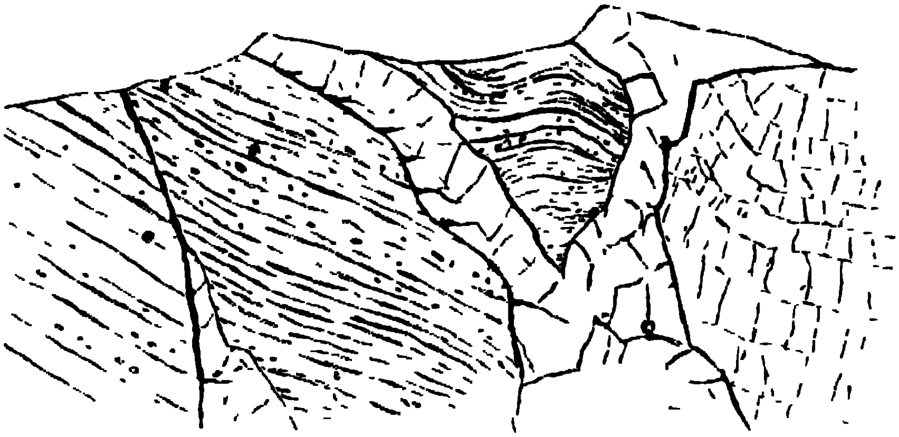


FIG 32 --A, B, C, sedimentary rocks, I, igneous rock.

The irregularities of surface do not, however, affect the general shape of the Earth. The perpendicular distance between the greatest height above sea-level and the greatest depth below sea-level is only about ten miles—one 700th part of the earth's diameter.

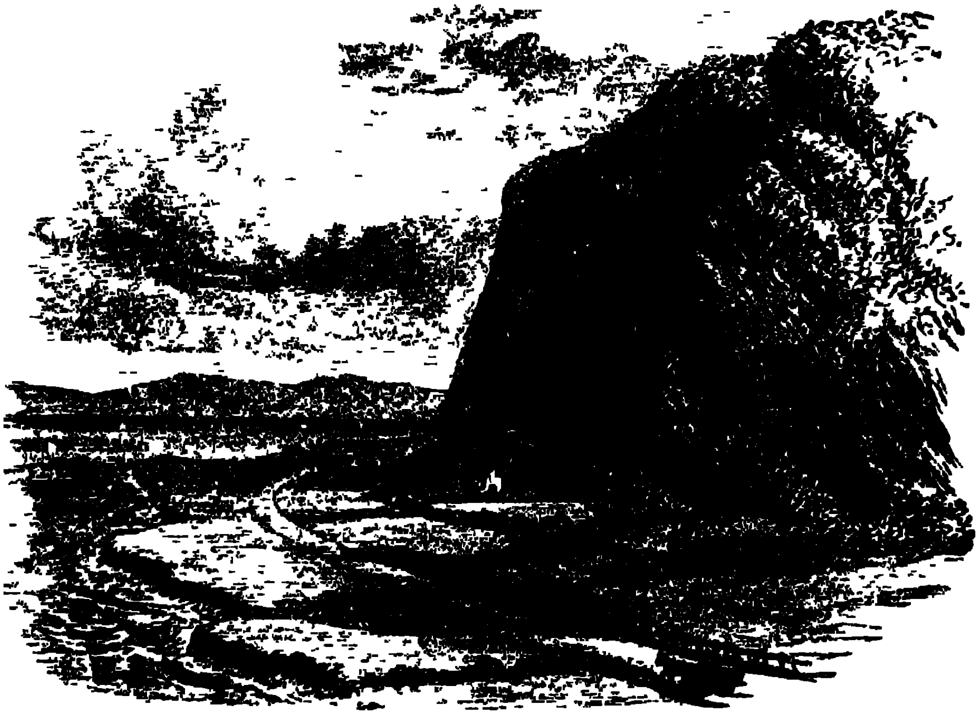


FIG. 33 —The level beach is new land formed by slow upheaval Sea-worn caves are to be seen at the foot of the old cliffs.

In proportion to its size, the Earth's surface is less rough than the skin of an orange.

34 **Present movements of the Earth's crust.** The general features of the Earth's surface seem now to be fixed. But various forces, both internal and external, are continually making changes in detail. The **internal** forces, though far less active than formerly, show themselves in slow upheavals or sinkings of portions of the Earth's crust, and in earthquakes and volcanic eruptions.

The shores of Sweden near Stockholm have risen during the present century, and the northern portion of the Baltic Sea is getting shallower. On the other hand, the coast of England is, in several places, slowly sinking, as is proved by the remains of trees and buildings which become visible at low tide. Similar instances of slow elevation and depression may be found all over the world.

35. **Earthquakes.** Earthquakes are sudden movements of the ground, generally accompanied by loud noises like the rumbling of a carriage, or the distant firing of artillery. They may be due to the sudden breaking of rock strata in consequence of the shrinking of the Earth's crust, or to explosions caused by the penetration of sea water into the highly heated interior of the Earth, or to the falling in of hollows in the interior of the Earth.

Earthquakes are most frequent in Central America, in Japan and the islands of the East Indian Archipelago, and in the countries bordering the Mediterranean Sea. They are often felt over immense areas. The famous earthquake at Lisbon in 1755, when 60,000 persons perished in six minutes, was felt as far as the West Indies.

36. **Volcanoes** A volcano is a mountain which emits steam, ashes, and other solid matter, and sometimes molten matter (**lava**), from an opening near its summit called a **crater**. Volcanoes are almost always found near the sea, and one explanation of volcanic eruptions is that water gradually penetrates the Earth's crust until it reaches the highly heated interior. Then, owing to its sudden conversion into steam, violent explosions occur, which find a vent through the passage communicating with the crater.

The great majority of active volcanoes are found round the Pacific Ocean.

**Geysers** are hot springs which have explosive eruptions of water and steam at intervals. The eruptions are caused by the conversion of water into steam through contact with heated rock deep down in the Earth.

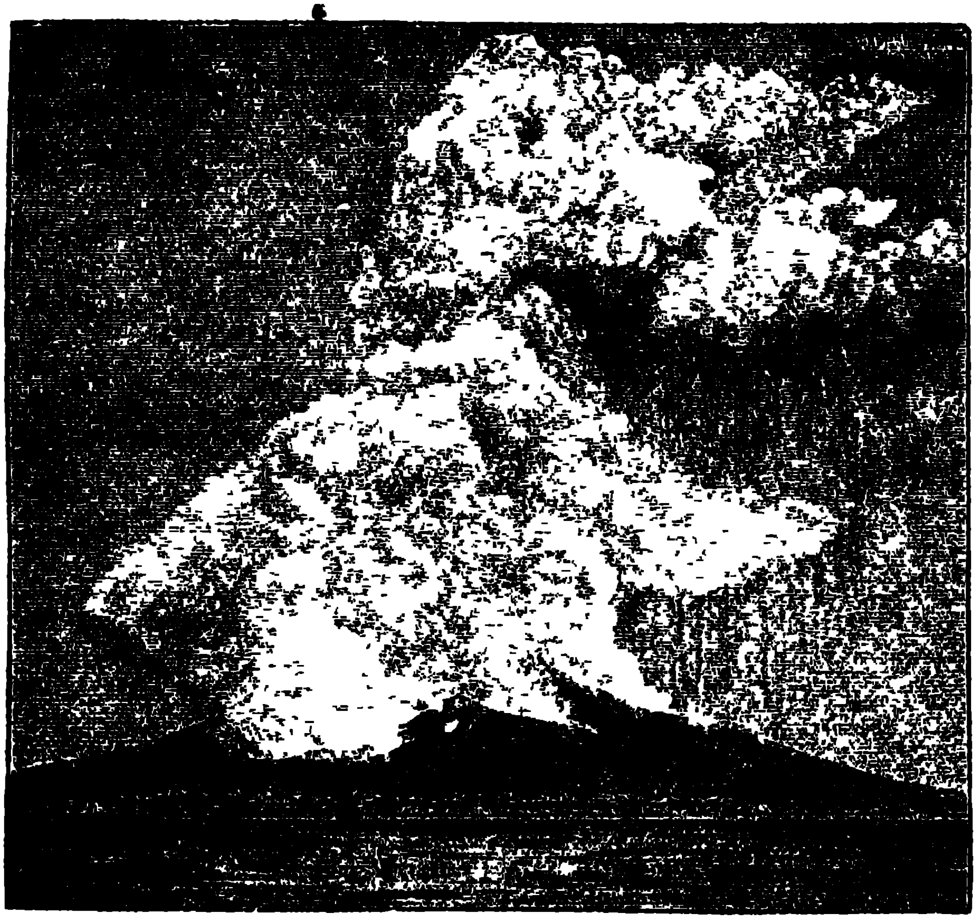


FIG. 34.—Vesuvius in eruption

### 37. Action of external forces on the Earth's surface.

The air, rain, springs, rivers, frost, the sea are continually working changes in the Earth's surface, and much of what we call "scenery" is due to their action.

Rocks exposed to the air gradually break up and crumble away. This is called **weathering.** Running water, ice in the form of glaciers, and the sea are continually wearing away the crust of the Earth. This process is called **erosion.**[1] By weathering and erosion the Earth's outer covering of rock and soil is removed and carried from higher to lower levels. This process is called **denudation.**[1]

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[1] Lat., *e*, away, *rodere*, to gnaw.

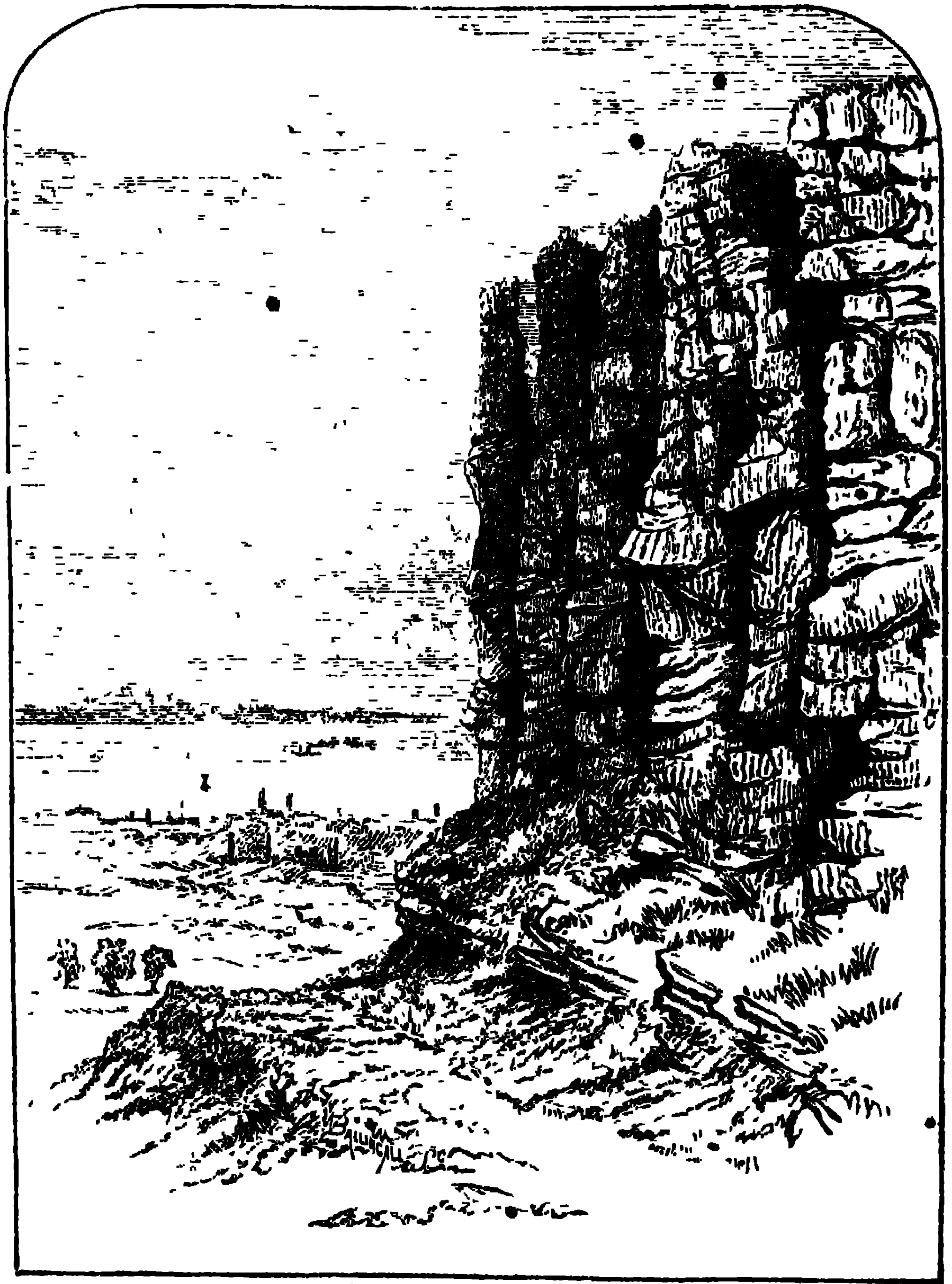

FIG. 35.—Effect of weathering on rocks

**Soil** is the result of the complete breaking up of rock. Some rocks yield sand only, others pure clay. Soil, as understood in agriculture, or mould, is a mixture of several mineral constituents: sand, chalk or limestone, and clay, together with a constituent formed by the decomposition or rotting of vegetable and animal matter. According to the proportion in which the mineral constituents are present a soil is sandy, chalky, or clayey. Clayey soils resist the passage of water through them. Sandy and chalky soils are porous

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[1] Lat., *denudare*, to make quite bare.

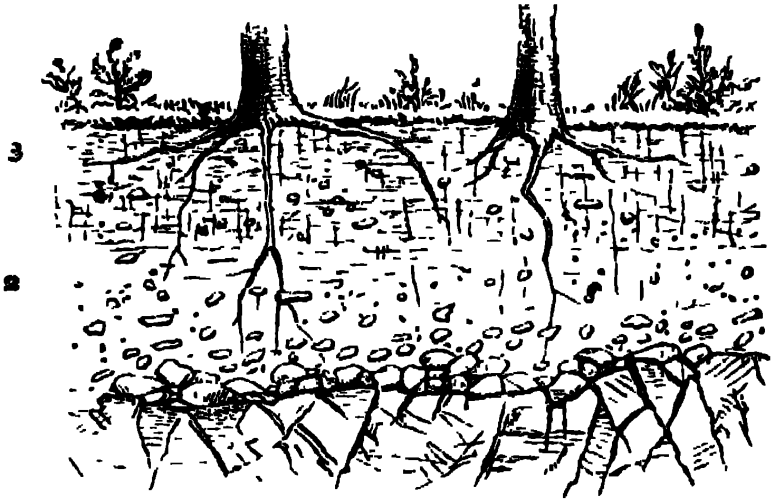

FIG. 36 —Formation of soil.

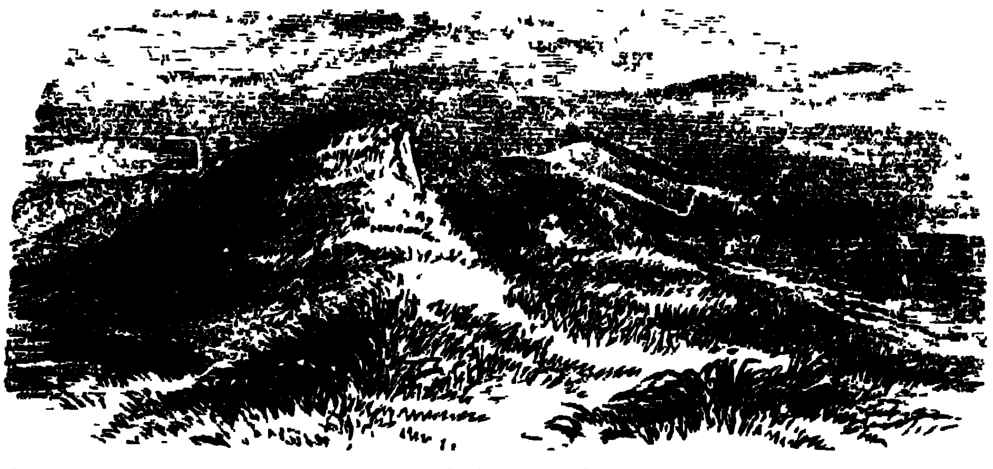

FIG. 37.—Sand-dunes—ridges of dry sand blown inland off the shore by the wind

38. **The work of wind.** Air in motion, or wind, is an active agent in changing the face of the land in sandy countries where vegetation is scanty. It heaps up the sand into hills whose shape is always altering. Wind also blows streams of fine sand against rocks, and gradually wears them away.

In the great Indian Desert and in the Gobi Desert in Eastern Turkestan, the **sandhills** or **dunes** are several hundred feet high. The low-lying east coast of India is in many places lined with sand hills which have been formed by the wind.

39. **The work of rain.** Rain loosens the soil on which it falls, and moves the finer particles from higher to lower ground. The little streams which are formed on hillsides and on any sloping ground carry the soil towards the rivers.

Every time it rains the muddy water rushing down the gutters tells us that moving water can carry with it finely divided solid matter. If we put some of this muddy water in a dish and allow it to stand for a time, it will become clear, and the mud will settle at the bottom. This finely divided solid matter which flowing water is able to carry along with it is called **silt**, and the quantity it can carry and the size of the particles it is able to move depend upon the speed at which it flows.

Rain also soaks into the ground and dissolves some of the substances contained in the soil. It finds its way through cracks and crevices in the strata of rock, and reappears on the surface of the ground at a lower level in the form of **springs.**

Rain-water is able to dissolve certain kinds of rock, especially limestone, and by doing so it forms large underground hollows, called **caves,** which are common in many limestone districts.

40. **The work of rivers.** Rivers show us on a large scale what moving water can do to bring about changes of the Earth's surface. They cut their own channels, and carve out the valleys through which they flow, and the immense quantity of material thus removed is, under favourable circumstances, deposited to form fertile plains. The plain of the Po in Northern Italy was formed by material washed down from the Alps, just as the plains of Northern India were formed by material washed down from the Himalaya. Such plains are called alluvial[1] plains because they have been formed from material carried by water. Alluvial plains may be seen on a smaller scale in most river

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[1] "Washed down." Lat., *ad*, to; *luere*, to wash.

valleys. They are the strips of flat land bordering the river, and have been formed by the deposition of silt from the water

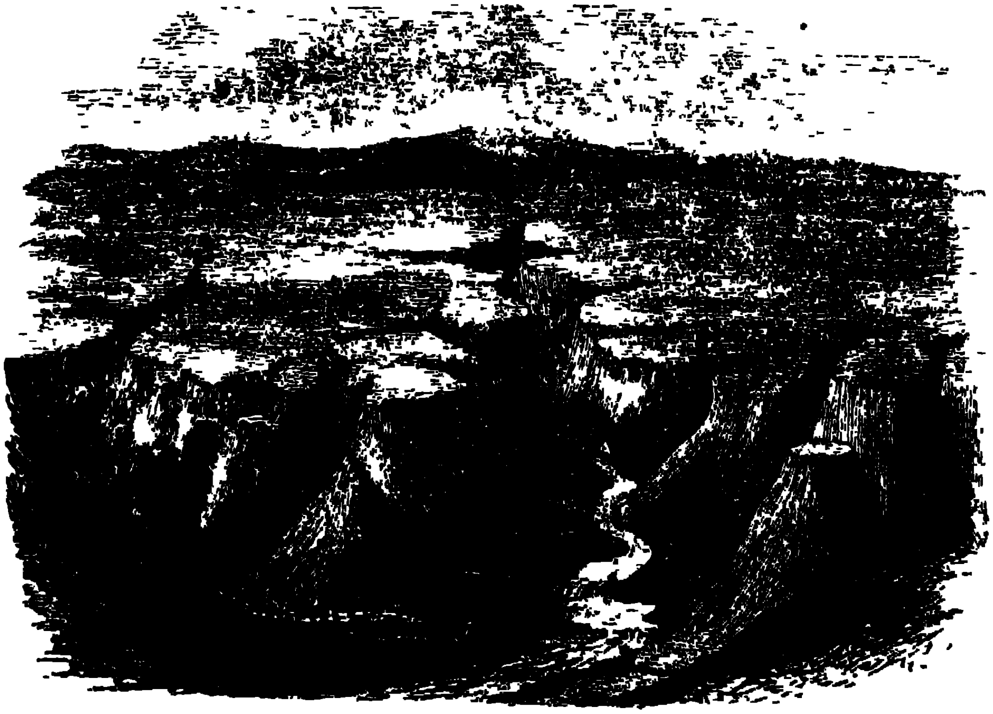

FIG. 38.—River erosion View of ravines cut by streams out of a table-land.

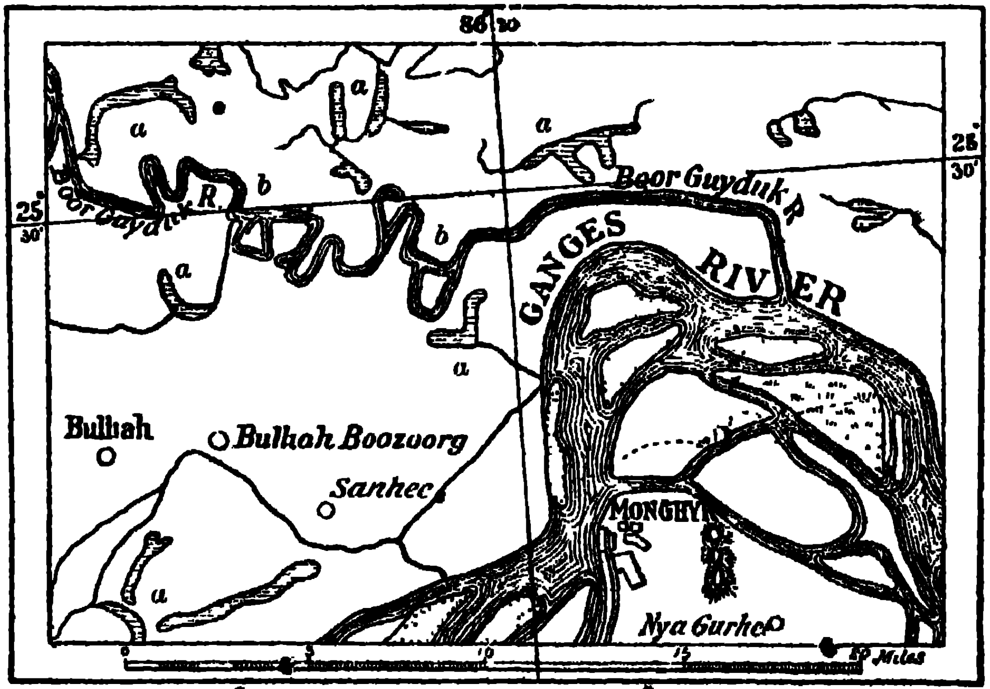

FIG. 39.—Jhils (*a*) and "cut-offs" (*b*) near Monghyr: the result of river erosion.

of the river when it has overflowed its banks in time of flood.[1]

The actual work of erosion now going on in formed river valleys is very slow The river is confined by the walls of its valley, and even if there is a flood-plain at the bottom, it is of limited extent.

But when a river flows over wide alluvial plains we may see erosion and the re-making of land going on actively. Such a river is generally laden with silt, and, as one would expect, its fall is gentle, and its course very winding. It eats away rapidly the soft soil of its banks, and, by so doing, often deepens its bends until they meet (Fig. 39). In this way it changes its course, leaving its old channel marked by the crescent-shaped sheets of water[2] that are so common in the basins of the Ganges and Mississippi.

Silt-laden rivers deposit silt in their beds when the current is no longer strong enough to carry the whole of it in suspension, and thus gradually raise them above the level of the neighbouring country. Embankments are then made to confine the river to its channel, but the embankment may burst in time of flood, and the river then sweeps across country, and makes for itself a new course. The Hoang-ho in China thus burst its banks in 1851, and now flows into Gulf of Pe-chi-li, instead of into the Yellow Sea as it did for centuries previously.

When a river enters the sea its flow comes to an end, and the silt it carries tends to settle and accumulate at the bottom, building up new land. Land is often formed rapidly at the mouths of silt-carrying rivers, especially if they flow into a tideless sea, in which case the deposits are not disturbed by tides or swept away by currents.

A tract of new land formed at the mouth of a river by the deposition of silt is called a **delta**[3] At first it is a mere swamp barely above sea-level, over which the water of the river is carried by a number of channels called **distributaries.** Since most of the silt is deposited in these distributaries they raise themselves above the rest of the delta. When the river is in flood they overflow; the delta goes under water, and its level is raised by the general deposition of silt. Hence the delta is gradually raised in level by successive deposits of silt until it becomes permanent land. The river then once more carries its silt to the sea, and, if the conditions are still favourable, continues the process of making new land. Under these circumstances the delta advances seaward.

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[1] Hence alluvial plains are also called flood-plains. [2] Called *jhils* in India.

[3] So called from the resemblance of the Nile delta, the one best known to the ancient Greeks, to the letter delta, Δ, of the Greek alphabet.

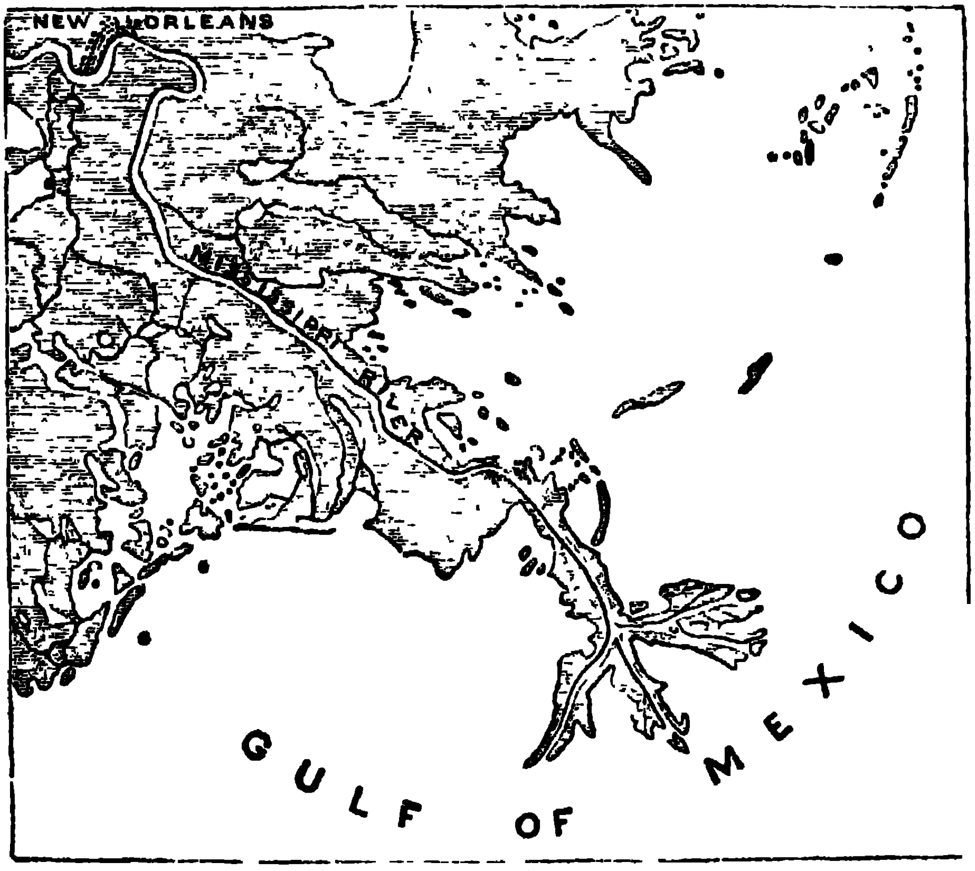


FIG. 40. -Delta of the Mississippi

The deltas of the Mississippi, the Po, and the Danube are formed in nearly tideless seas, and are growing rapidly. The Ganges delta, which now faces a sea with strong tides and currents, is growing very slowly. But many rivers form no delta at all, though, as a rule, they deposit opposite their mouths, where the current has its last struggle with the tides, a sufficient quantity of sediment to form a bar, which is often a serious hindrance to navigation.

41. **The work of frost.**—Frost is an active agent in weathering rocks. It changes the water in the crevices into ice, and, as ice takes up more room than water, the crevices are enlarged and the rock is gradually broken up.

At high altitudes the moisture of the atmosphere is condensed by the great cold to snow. The snow fields which clothe the sides of high mountains above the snow-line are continually added to by fresh falls, so that the lower layers are under great pressure, and are changed to ice, forming **glaciers.** A glacier is really a river of ice, and moves, though very slowly, downwards. In so doing, it acts as a very powerful instrument of erosion, scooping out great hollows in the mountain sides, and grinding down rocks to boulders, pebbles, and mud. The result of this work is seen in the heaps of rock waste accumulated at the lower end of the glacier, where, owing to the warmth of the air, the ice turns into water and flows away laden with silt.

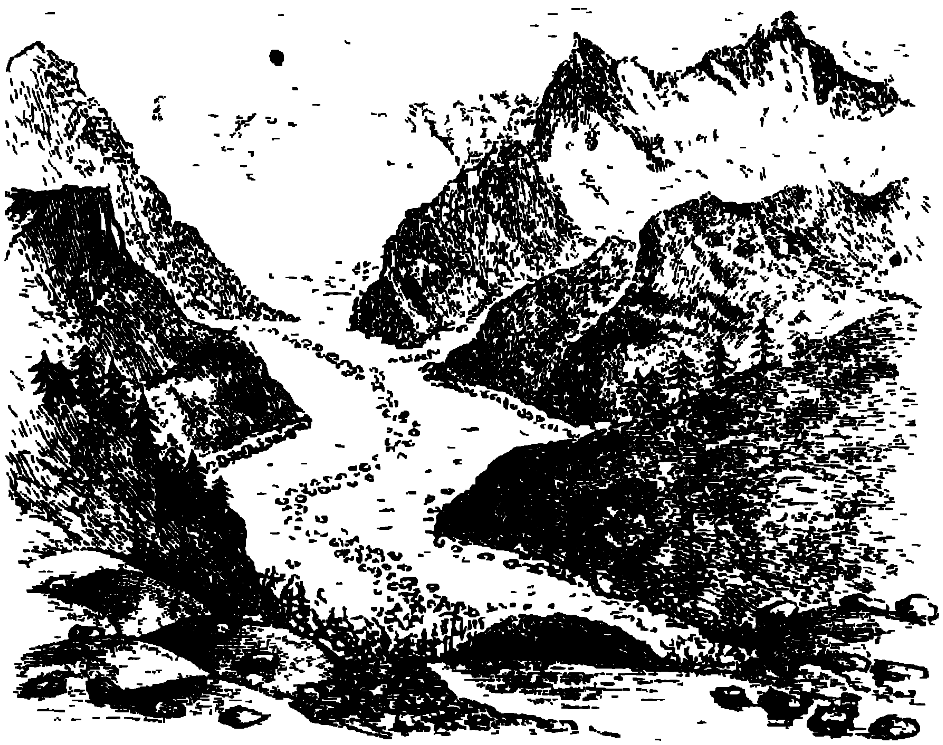


FIG 41.—View of a glacier, with its lines of rubbish (moraines) and the river which escapes from its end. Ice-worn hummock of rock and transported stones are shown in the foreground.

The longest glacier in the world is the great Baltoro glacier, which flows down the Karakoram Mountains, in the north-west of India. It is about thirty-six miles long.

In high latitudes glaciers may flow to the sea. The huge masses of ice which are then set free by the breaking up of the glacier to float about the ocean are called **icebergs.** They sometimes tower hundreds of feet above the water, and yet, since ice is only a little lighter than water, the portion above water is only about one-ninth of the whole iceberg.

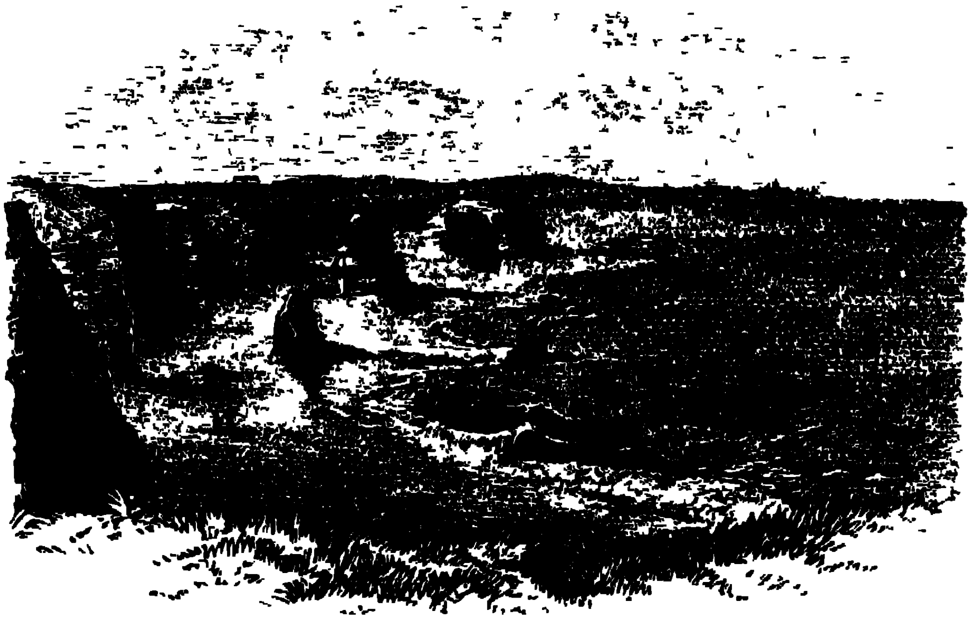


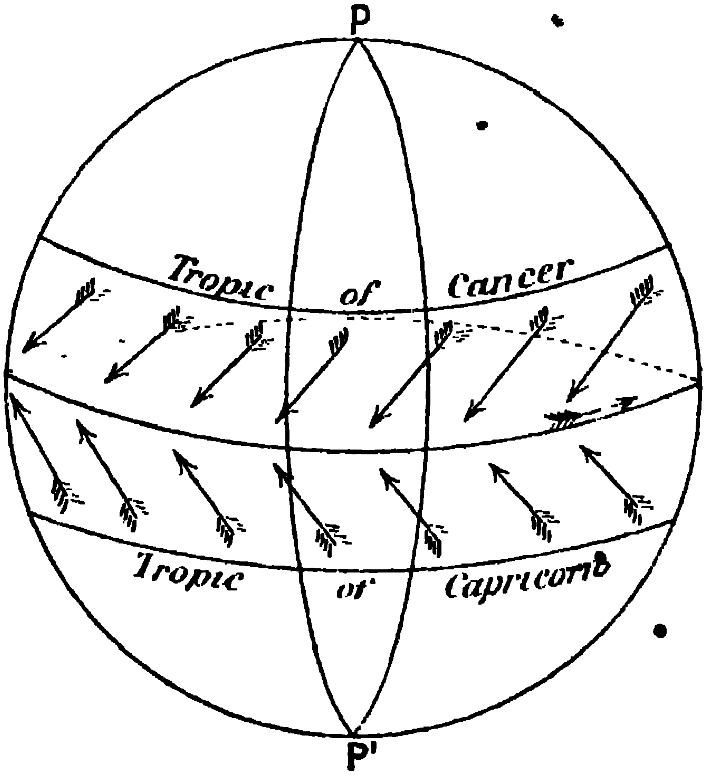
FIG. 42 —Marine erosion. Sea-cliffs worn away by the waves, and the isolated fragments left

42. **The work of the sea.** The sea attacks the cliffs along the coast, and loosens and dislodges the rocks By the ceaseless action of the waves the fragments are ground down to pebbles and sand, and these, by means of the wind and tides, are distributed over the bottom of the sea near the land.

Although these land-destroying processes would in time, if unchecked, clear away all hills, and carry all the land of the Earth into the sea, it must be remembered that no matter is actually destroyed. The material which has been carried out to sea for thousands of years by all the rivers which flow into it has been deposited there, and may in course of time be upheaved as sedimentary rock, and form part of the land surface of the world once more. But the general tendency of these processes is to reduce the surface of the Earth to a uniform level.

## The Atmosphere.

43. **The atmosphere** is the envelope of air which covers the surface of the Earth. It extends to a height of at least 50 miles, and probably considerably higher, but it cannot support life at a height of more than about five miles from the surface of the ground.



*Oblique direction of the Trade Winds*

FIG. 43.

44. **Winds.** Currents in the atmosphere are called winds. They are caused by the heating of the Earth's surface by the rays of the sun. The air touching the heated surface is raised in temperature, and in consequence expands, becomes lighter, and ascends. Cooler air flows in to take its place, and this air current is a wind.

45. **Permanent winds.** Some winds blow regularly and steadily in one direction all the year round. The **trade winds,**[1] which blow towards the equator over a belt of about thirty degrees of latitude on each side of it, are permanent winds. They are caused by the intense heating of the equatorial regions, which produces upward currents of air. To replace the air thus removed currents of air flow from the regions north and south of the equator, which are converted by the rotation of the Earth into north-east trade-winds north of the equator, and into south-east trade-winds south of the equator.

Strong permanent westerly winds blow from 40° to 60° south latitude. They are known as the "roaring forties," because ships sailing south generally fall in with them about lat. 40° S. They give favourable winds over about 300 degrees of longitude to ships going to New Zealand by the Cape of Good Hope and returning by Cape Horn.

46. **Monsoons.** These are **periodic winds,** that is, winds which blow in one direction at one period of the year, and in another direction at another period of the year. They are caused by the intense heating of large areas of land during the hot months of the year, and the rapid cooling of the same areas during the colder months of the year. During the hot months winds blow from the ocean towards the land; in the cold months from the land towards the ocean.

The hot-weather monsoon in the northern part of the Indian Ocean, and in the China Sea, blows from the **south-west,** and brings with it heavy rain. The cold-weather monsoon blows from the **north-east,** and, as it comes from the land, is a dry wind. The monsoons are also well marked in northern and north-western Australia, but the seasons, etc., in the southern hemisphere are the reverse of ours. The hot-weather monsoon blows there during our cold weather, and the rain-bringing wind from the Indian Ocean is in Australia a north-west wind, while the south-east wind of the cold months is a dry wind.

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[1] So called because of the steady way in which they blow in the same direction, 'trade' having once had the meaning 'track' or 'course.'

47. **Land and Sea Breezes.** Currents of air on a smaller scale are often produced locally, especially along the sea-shore. During the day the land gets more heated than the sea; the air over the land rises, and a cool wind blows in from the sea to take its place. At night the land cools more quickly than the sea, and a current of air moves from the land to take the place of the lighter air over the warmer sea.

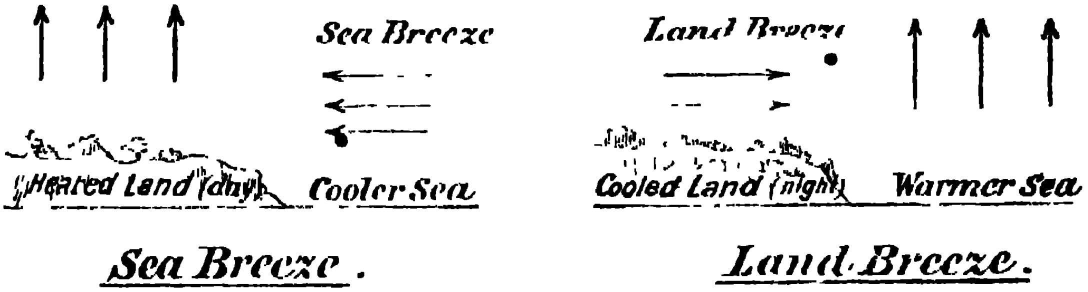


FIG 44

48. **Storms.** Air in violent motion, generally accompanied by rain, and sometimes by thunder and lightning, is a storm. Storms may be quite local; on the other hand, they may travel for thousands of miles and affect great areas.

**Cyclones.** Tropical regions are subject to excessively violent and dangerous storms called **cyclones** in the Indian Ocean, **typhoons** in the China Seas, and **hurricanes** in the West Indies. They are winds blowing in a spiral direction around a calm centre. They are most violent near their place of origin, and while the area they affect is comparatively small. As they advance they cover a greater area and lessen in violence.

Cyclones are common in the Indian Ocean and in the China Sea during the S W monsoon They are most violent at the beginning and at the end of the monsoon.

In the North Atlantic Ocean cyclones are usually formed in the West Indies. They often cross the Atlantic and strike with more or less violence on the western shores of Europe. The South Pacific Ocean is also subject to cyclones.

Cyclones often give rise to what is called a **storm-wave**, which sweeps over the low-lying coast lands and islands in its path, with disastrous consequences to life and property.

49. **Rain and Snow**. The water of the ocean and of lakes and rivers is always evaporating, that is, changing into vapour, which mingles with the air. When sufficiently cooled the water-vapour is partially condensed, and then becomes visible as **mist** or **cloud**, or it may be entirely condensed and fall as **rain**. If the temperature is below freezing point (32° F) the condensed water-vapour will fall as **snow**.

Rain falls very heavily in the equatorial regions, where the excessive heat produces great evaporation from the ocean; and also on the windward sides of many mountains, on account of moisture-laden air being cooled by its expansion as it is forced upwards

**Rainfall** is reckoned as the number of inches deep the rain-water would lie on the ground if it did not flow away or evaporate. In England, on a very wet day, two inches of rain may fall; In India, on a wet day in the rainy season, at least double this amount would fall.

The average annual rainfall varies very greatly in different parts of the world. In tropical countries, over which moist ocean winds blow, it often exceeds 100 inches along the coast and in mountain districts.

The wettest place in the world is Cherrapunji in the Khasi Hills in Assam, where upwards of 500 inches of rain fall in the year. The average yearly rainfall in London is 23½ inches; in Calcutta 63½ inches; in Singapore 93 inches; in Melbourne 26½ inches.

Some parts of the world receive little or no rain. Such places are either (1) cut off from water-bearing winds by ranges of mountains, or (2) are so far inland that the prevailing winds, when they reach them, have already been deprived of their water, or (3) are so situated that the water-bearing winds blow from cool regions to warmer regions, in which case no condensation of water-vapour can take place.

Egypt and the Sahara Desert in Africa, parts of Arabia and Persia, the Gobi Desert in Asia, and the west coast of Peru in South America are rainless tracts. The rainlessness of Egypt, for example, is due to the fact that all winds, except the north and north-west winds blow over vast arid tracts. The winds from the north and north-west blow over the Mediterranean, but this is a comparatively narrow sea, and the winds from it are blowing from colder to warmer regions.

50. **Climate.** The temperature, the prevailing winds, the dryness or moisture of the air and the soil, are the conditions upon which the climate of a place depends. We may, therefore, define climate as *the state of a place with regard to weather throughout the year.*

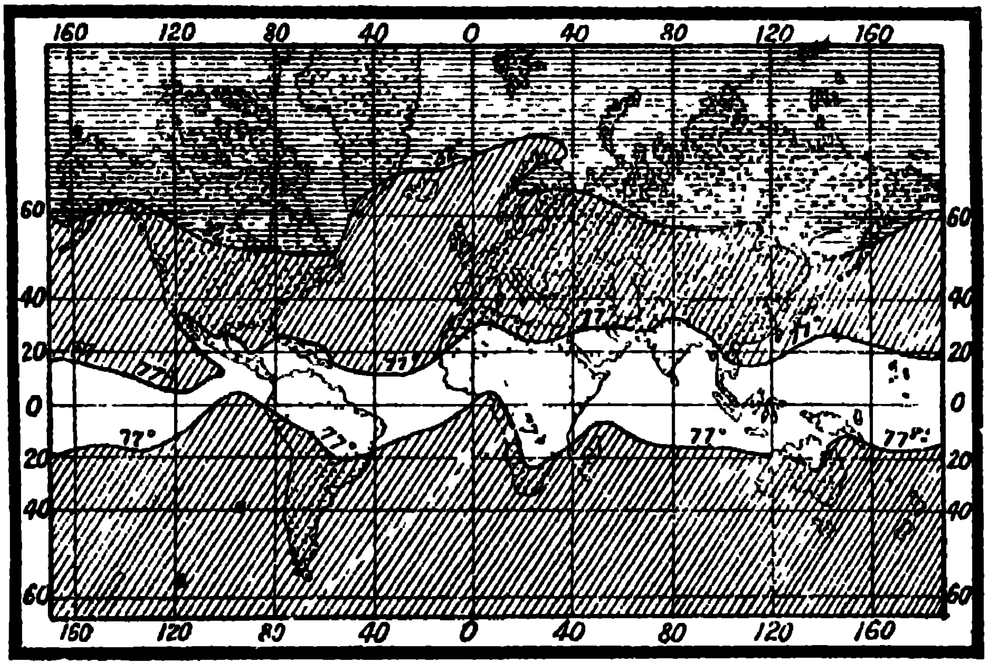
The most important element in climate is temperature, or the state of a place with regard to heat and cold. This varies with latitude (§ 26). Other things being the same, the higher the latitude the lower the temperature That is, temperature decreases from the equator towards the poles.

Temperature also varies with elevation. The temperature of the air falls about one degree Fahrenheit for each 300 feet of ascent above sea level By ascending a sufficiently high mountain in the tropics we may experience the climate of every latitude, from a tropical climate at its base to an arctic climate above the snow-line Quito on the equator, but at an elevation of over 9000 feet, enjoys a temperate climate, as do the hill stations of India, at an average elevation of 6000 feet.

The height of the snow-line, that is, the elevation above which a mountain is always covered with snow, varies, of course, with the latitude in which the mountain is situated. At or near the equator it is about 16,000 feet; in Europe, in the Alps, it is between 8000 and 9000 feet; at the North Cape, in Norway, lat. 71° N., about 2000 feet. Often, too, the snow-line is at a different height on the two sides of the same range of mountains, owing to differences in the state of the atmosphere. On the south side of the Himalaya, which intercepts the moist winds from the Indian Ocean, the snow-line is about 15,000 feet; on the north side, where the air is dry, a much greater degree of cold is required to condense to snow the scanty moisture of the atmosphere, and the snow-line is about 18,000 feet (Fig. 63).

Other causes affecting temperature are (1) the nature of the prevalent winds; (2) distance from the sea or other large body of water, places near the sea being neither so hot nor so cold as places inland; (3) the neighbourhood of mountains, which force the winds to rise, whereby their moisture is condensed; (4) rain, which moistens the air, and at the same time cools it; (5) the nature of the soil, a sandy soil being rapidly heated during the day, and cooling rapidly at night, while a wet marshy soil is both heated and cooled more slowly; (6) ocean currents that are warmer or colder than the main body of water through which they flow; (7) vegetation, which uses up some of the heat of the soil in its growth, and, as forest, promotes moisture.

51. **Isothermal lines.** If we note the temperature of the air every hour during the day, add these temperatures together, and divide the sum by 24, we shall get the average or mean temperature for the day. If we add together the mean daily temperatures for the whole year, and divide the result by 365, we shall get the mean annual temperature. This is done regularly in many places all over the world, and lines drawn on a map through all places having the same mean annual temperature are called isothermal lines, or **isotherms**, that is, lines of equal temperature.



*Annual Isotherms of 32° & 77°*

FIG 15

We saw how the parallels of latitude were used to divide the world into zones of climate, but it is clear that a much more accurate division according to climate can be made by isothermal lines. If we look at a map of the world on which the isothermal lines for the year are marked, we shall see that there is an irregularly shaped tract of high temperature which extends for some distance on both sides of the equator. This is the true torrid zone and the isotherm of 77 degrees may be taken as its boundary All places inside this boundary have a mean annual temperature of 77° or more.

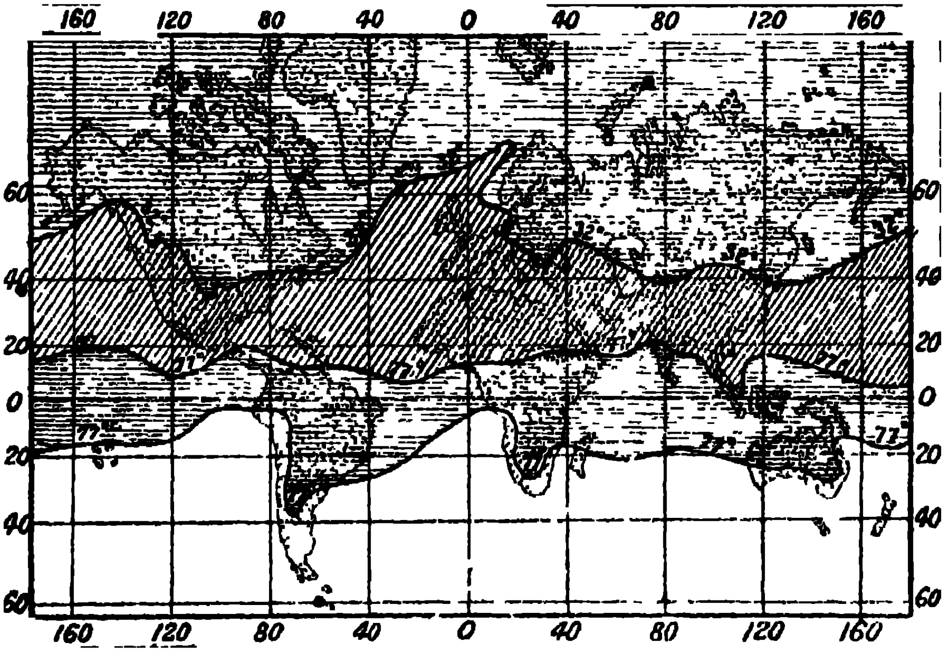
The isotherm of 77° well illustrates the modifying influence of large masses of water. The zone of high temperature which it encloses is narrowest in the Pacific Ocean, and widest in the interior of Africa. Moreover, the greater part of this true torrid zone is north of the equator It only reaches the Tropic of Capricorn in South America and South Africa, whereas it extends to the Tropic of Cancer in Mexico, and across most of Africa, and in India goes north of it. The reason is that in the Northern Hemisphere there is more land than water; in the Southern Hemisphere there is more water than land

The boundaries of the north and south temperate zones towards the poles are properly the northern and southern isotherms of 32°, the lines joining places in the northern and southern hemispheres whose mean annual temperature is the freezing point of water The regions on the polar side of these lines have a mean annual temperature below the freezing point of water, and are the real frigid zones.

These isotherms also illustrate the moderating influence of the sea upon climate. In the Southern Hemisphere the isotherm of 32° is not far enough north to cross any of the continents. In the continents of the Northern Hemisphere it comes well below the Arctic Circle, but in the sea between Iceland and Norway it does not even reach it. Hence the shores of Norway are never ice-bound.

52. **Kinds of climate.** It is not enough to know the mean annual temperature of a place in order to understand its climate. One place may have very hot summers and very cold winters,

and yet have the same mean annual temperature as another place where the summers are not hot and the winters are not cold. In order to understand the climate of a place, we must know among other things its **range of temperature** : the difference between the mean highest temperature and the mean lowest temperature.



*Isotherms of 77° & 32° for January.*

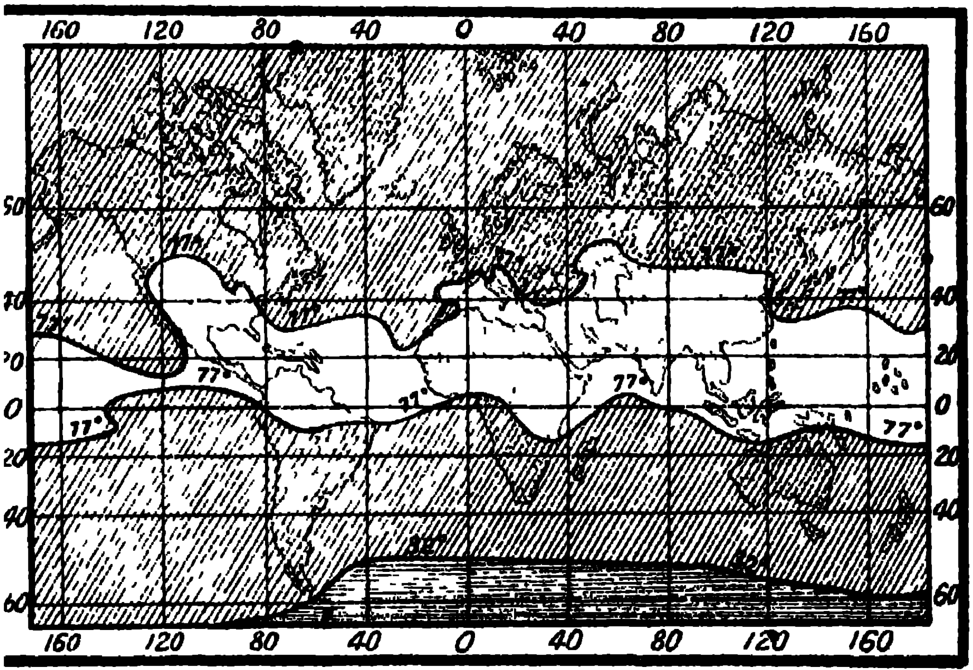
FIG. 46.

At Calcutta, for example, the mean maximum or highest temperature is 102°; the mean minimum or lowest temperature is 48°. The range of temperature at Calcutta is, therefore, 54°. As we go inland up the Ganges basin the range of temperature increases rapidly. At Patna it is 68°; at Allahabad, 76°. Yet all these places have the same mean annual temperature as Calcutta. On the other hand, Moulmein, close to the sea on the Burmese coast, has a range of only 41°.

When the range of temperature is great a climate is called **extreme**. As such climates are generally found away from the sea in the interior of continents, they are also called **continental**.

On the other hand, climates where the range of temperature is moderate are usually found near the sea, and are therefore called **marine** or **insular**.

The two maps showing the isotherms of 32° and 77° in January and in July, illustrate range of temperature They tell us in what parts of the world the temperature never falls below 77°, and where the range of temperature is extreme. The most extreme climate in the world is in Eastern Siberia, near the Arctic Circle, where the range is over 100°. In India, places near the north-west frontier have an extreme climate. Quetta, for example, on the borders of Afghanistan, has a range of 84°.



*Isotherms of 77° & 32° for July*

FIG. 47.

On the other hand, some of the islands of the Pacific have a typically insular or **oceanic** climate. The temperature varies very little throughout the year.

Colombo, in Ceylon, has a range of only 25°. Port Blair, in the Andaman Islands, has a range of 26°.

As a rule, **equable** climates—those of moderate range of temperature—are the most favourable to health. The climate of the British Isles, and, indeed, that of the western and southern shores of

Europe generally, is of this kind, and is in striking contrast with the climate of countries in the same latitude on the other side of the Atlantic, and on the continent of Asia, as the following table shows:

| | | Mean annual temperature | Mean temperature, January | Mean temperature, July | Range |
|---|---|---|---|---|---|
| lat 50° N. | Winnipeg (Canada), | 32° | -5° | 66° | 71° |
| | London, - - - | 50° | 39° | 63° | 24° |
| | Irkutsk (Siberia), - | 31° | -6° | 65° | 71° |
| lat. 44° N. | Halifax (Nova Scotia), | 42° | 22° | 63° | 41° |
| | Genoa (Italy), - | 60° | 45° | 75° | 30° |
| lat. 40° N. | New York, - - | 51° | 30° | 73° | 43° |
| | Lisbon, - - - | 60° | 50° | 71° | 21° |
| | Peking, - - - | 53° | 23° | 79° | 56° |

## The Ocean.

53. **Extent. Depth.** We saw (§ 33) that the surface of the Earth was not smooth, but broken up by ridges and hollows, and that the greater hollows were filled with water, forming the Ocean. Nearly three-fourths of the Earth's surface is ocean, and we use its surface, mean sea-level as it is called, as our starting-point in reckoning the heights and depths of the globe. The greatest depth of the ocean that has been measured is 31,000 feet, which is about 2000 feet more than the height of the highest mountain in the world. The average depth of the ocean is 12,000 feet, while the average height of the land is only about 2000 feet.

54. **Its saltness.** The water of the ocean is salt, and probably always has been salt. Further, every river that flows into it brings substances in solution which have been dissolved from rocks and soil. This dissolved matter, of which three-fourths is common salt, remains in the ocean. Owing to its saltness sea water is heavier than fresh water. The water of the ocean is continually being removed by evaporation; the water vapour that is condensed over the land and falls there

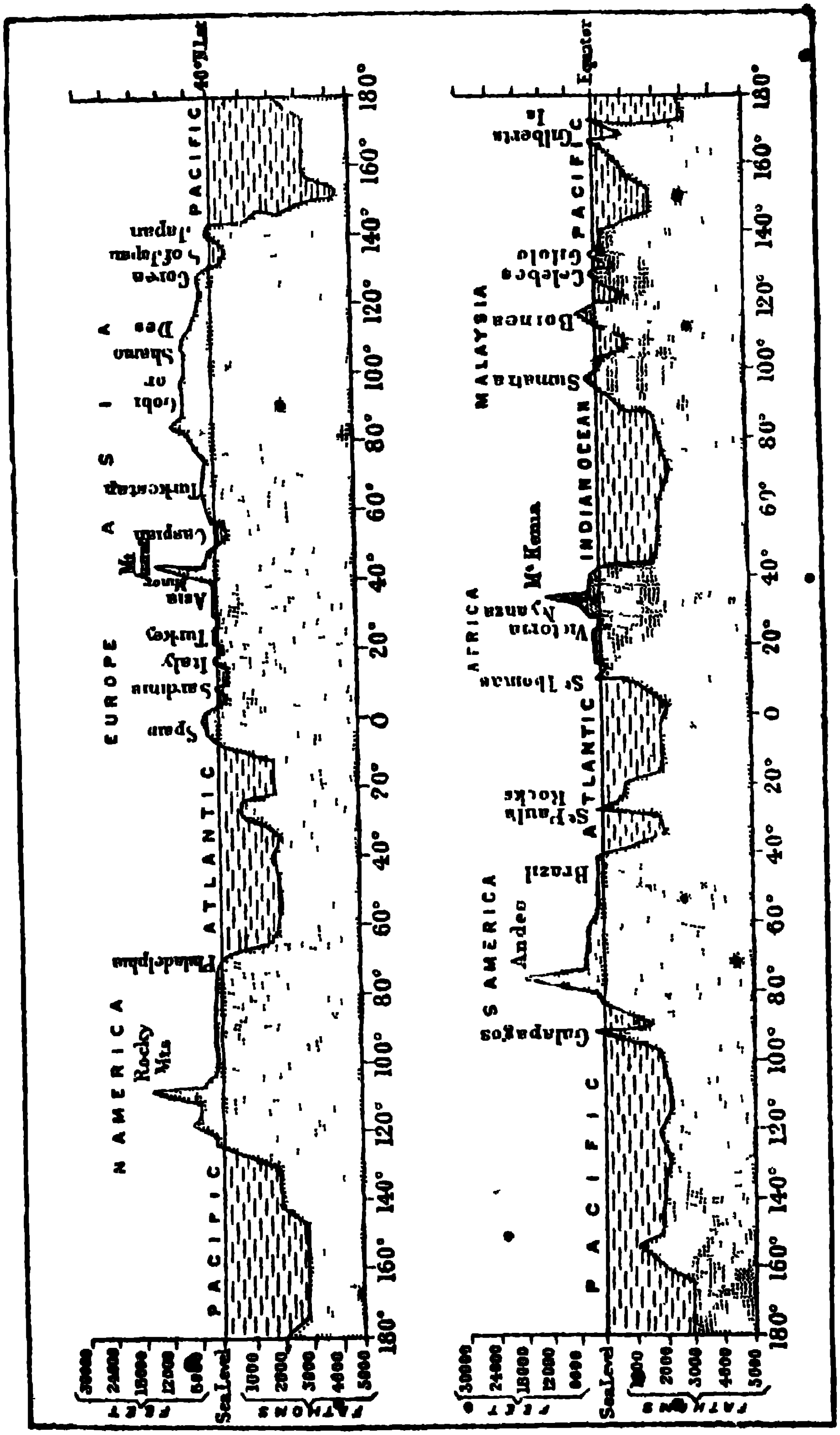


Fig. 48.—Approximate section of the world.

as rain and snow, comes back again to the ocean with a fresh supply of dissolved matter. Hence the saltness of the ocean tends to increase, and, were it not for the consumption of salt by plants and animals that live in the ocean, and other counteracting agencies, would increase.

Inland seas in hot climates, where there is great evaporation, are salter than the general body of ocean water, especially if, like the Red Sea, no rivers flow into them. Even if rivers do flow into them, the fresh water thus brought may not make up for the loss by evaporation. This is the case with the Mediterranean Sea, which is accordingly salter than the ocean. In colder latitudes, where there is less evaporation, inland seas which receive the water of large rivers, like the Baltic Sea and the Black Sea, are fresher than the ocean.

55. **Temperature.** The temperature of the water on the surface of the ocean varies with latitude, and also, except near the equator, with the season of the year

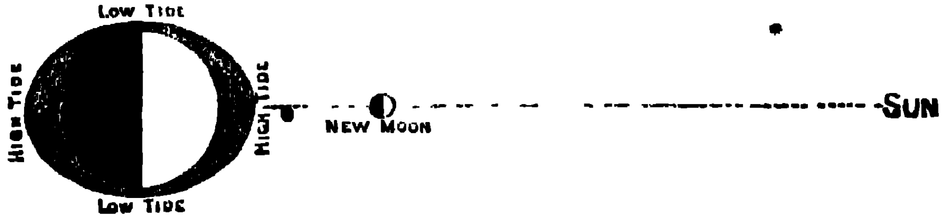
Near the equator and in the Indian Seas the average temperature is about 80°. Towards the poles the temperature decreases steadily. The temperature of the sea around the British Isles is always below 50° in winter; in summer in some parts it reaches 60°.

56. **Colour.** The colour of pure ocean water is deep blue. Near land, where it contains finely divided solid matter (silt) which has been brought down by rivers, or washed from the coast, it is generally green. Off the mouths of great silt-laden rivers like the Amazon, the sea has a layer of muddy fresh water floating upon it several hundred miles from land.

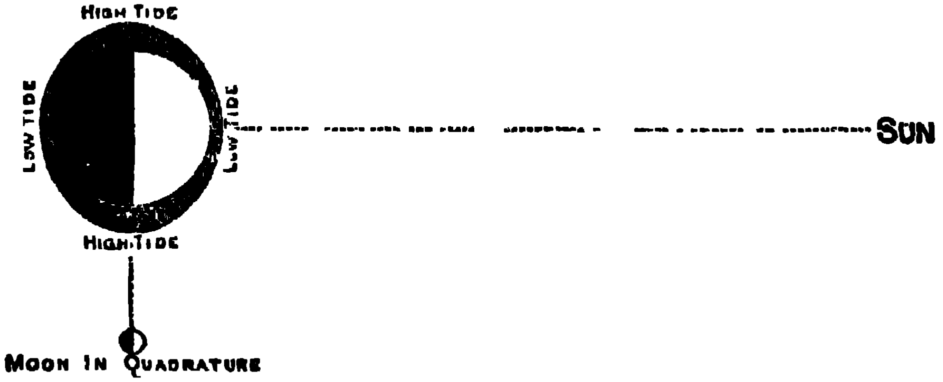
57. **Waves.** The surface of the ocean is seldom quite smooth. The wind heaps up the water into waves, in which the particles of water have an up-and-down movement but no onward motion. This wave motion is transmitted over the water just like the ripples which are formed when we throw a stone into a pond. In fact waves are big ripples.

After a storm the sea is disturbed by long waves at a considerable distance from the place where the storm occurred. Such a disturbance of the sea is called a **swell.** When these long waves approach the shore the friction of the sea-bottom retards the water in contact with it. The upper part then curls over, and breaks in a mass of foam or **surf.** Such breaking waves are well known on the east coast of India, and are called **breakers.** Specially made boats (masulah boats) are required to navigate them safely.

58. **The Tides** The moon, like the sun, attracts the Earth and everything upon it. This attraction of the moon causes the fluid water of the ocean to heap up into a wave, and as the



SPRING-TIDES



NEAP-TIDES

FIG. 49 — Spring and neap tides

Earth rotates from west to east the wave travels from east to west, following the moon. Two such waves are formed at the same time, one as above described on the side of the Earth next the moon, the other on the opposite side of the Earth, where the solid earth is pulled away from the ocean above it. These waves are called **tidal waves.** They are highest when the sun and moon are in a line and pull together. We then have what are called **spring tides.** They are lowest when the sun and moon are at right angles; we then have **neap tides.**

A tidal wave, however, has only room to form properly in the great oceans, especially the South Pacific In smaller bodies of water, like the Mediterranean Sea, there is very little tide; in the Baltic and Black Seas it is scarcely noticeable.

The regularity of the progress of the tidal wave is much interfered with by the land masses of the globe; but the interval between the times of its arrival at the same place is always the same, namely, about 12 hours and 25 minutes. There are, therefore, at a given place, two tides in 24 hours and 50 minutes, so that if it is high tide at noon one day, it will be high tide next day at 12 50, and so on. Hence the time of high tide is always changing.

The height of the tidal wave in the open sea is about three feet. Ships do not notice it. But when it nears the land and forces its way into channels of the sea, bays, and river estuaries, it causes great changes in the level of the water.

During about six hours there is a gradual rise up to **high water**. This is called the **flood tide**. Then there is a gradual fall for about six hours to **low water**. This is called the **ebb tide**

The highest tides known are in the Bay of Fundy in Nova Scotia. The bay is long and narrow, with a mouth widening towards the Atlantic, and the tide rises upwards of 60 feet

Round India the height to which the tide rises varies with the configuration of the coast Where it is regular and fronts the Indian Ocean, as on the Malabar and Carnatic coasts, the rise is only from two to four feet But when the land draws in towards the head of the Bay of Bengal the tide rises much higher. At False Point it rises 7 feet, at Calcutta about 11 feet, at Chittagong about 13 feet, and at Rangoon 16 feet. On the west coast, at Bombay, the tide rises about 13 feet; in the Gulf of Cambay it rises more than 30 feet.

At the mouths of rivers the advancing tide is sometimes so obstructed by the rapid narrowing and shallowing of the channel that a wall of water is formed which rushes up the river. This is called a **bore**.

Bores occur at spring tides in the Hugli, the Severn, the Amazon, and many other rivers.

The tides cause actual **currents** to flow in and out of harbours with narrow entrances. Such currents are often of use to navigation by preventing the formation of bars (§ 40).

59. **Ocean Currents.** There are currents in the ocean just as there are in the atmosphere: currents of cold water which flow from the poles towards the equator, and currents of warm water which flow from the equator towards the poles. They are chiefly caused by the permanent winds blowing on each side of the equator, but the high temperature of the water in the tropics may have something to do with their production.

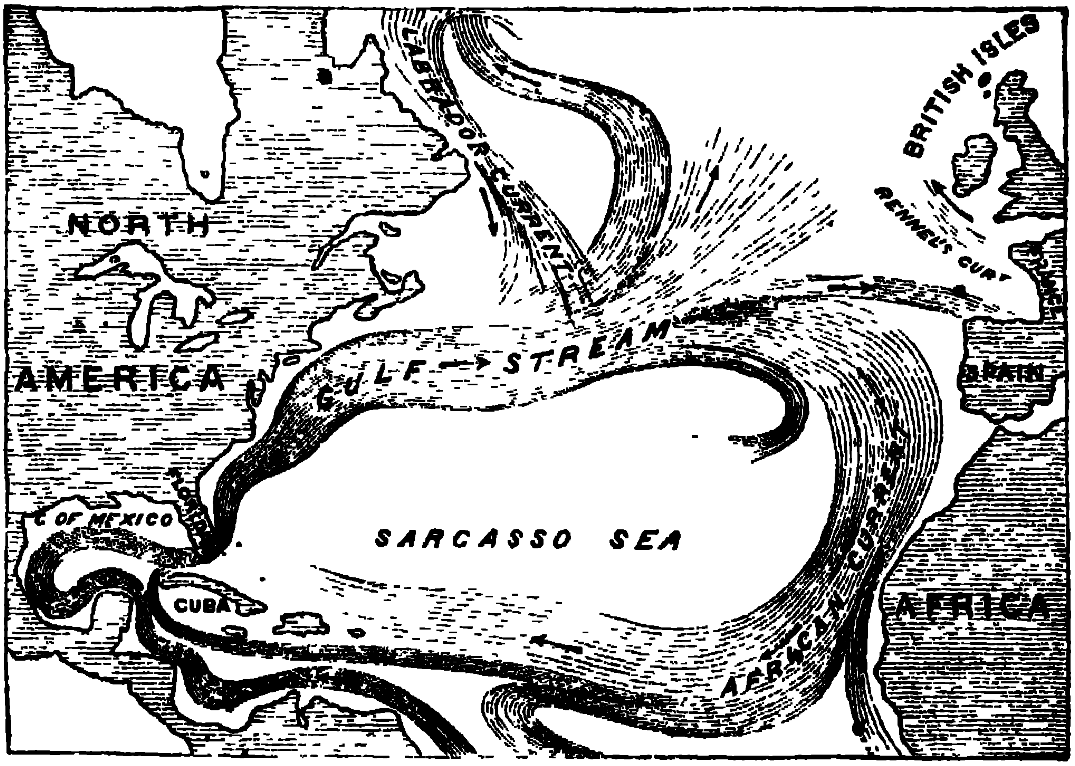


FIG 50 —Gulf Stream.

**The Gulf Stream.** This is the best known of the ocean currents, and one of the most important in its effects. It flows into the Atlantic Ocean from the Gulf of Mexico as a very warm current, and is drifted to the north-east by the prevailing atmospheric circulation. The Gulf Stream ceases to exist as a well-defined current soon after leaving the shores of North America, and only a broad, shallow, north-eastward drift of comparatively warm water, kept up by the prevailing south-westerly winds, approaches the shores of Europe. This drift has little or no effect upon the climate of North-Western Europe. The south-westerly winds themselves, which blow from warmer latitudes over water that is comparatively warm, and are laden with the moisture that they have taken up on their way, are the main cause of the mild climate of the British Isles and Western Europe.

**The Kuro Siwo.** This is an ocean current in the Pacific corresponding with the Gulf Stream in the Atlantic. It flows past the eastern shores of Japan, being called Kuro Siwo or Black Stream from the deep colour of its water. It then moves across the Pacific Ocean towards the shores of North America. The winds which produce the current greatly moderate the climate of Japan and British North America. Vancouver Island is free from ice in winter, whereas the River St. Lawrence in the same latitude on the east of America is ice-bound for five months in the year.

### QUESTIONS.

1. Why do we think that the interior of the Earth is still in a highly heated condition?

2. How was the crust of the Earth originally formed? What are igneous rocks? Give examples. Distinguish between sedimentary and metamorphic rocks. What are fossils?

3. Why is the Earth's surface uneven? If the irregularities of the Earth's surface were represented in proper proportion on a globe 22 inches in diameter, how high would Mount Chumalari, 24,000 feet, appear? (Earth's diameter = 7900 miles.)

4. What causes the slow upheavals and depressions of the Earth's surface which are going on in different parts of the world?

5. To what causes may earthquakes be due?

6. What reason has been given for the fact that volcanoes are generally found near the sea? What is the difference between a geyser and a volcano?

7. Define *erosion*, *weathering*, *denudation*. Which of these forces is most active in the plains of Bengal? How is soil formed?

8. What are *dunes*? In what sort of country are they found?

9. How does rain cause denudation? How are caves formed? What are springs?

10. What are alluvial plains? Why are rivers flowing over them usually winding? How does this tend to bring about changes of course? Under what circumstances does a river bed come to be higher than the country on both sides of it? How are deltas formed? What conditions are favourable to their growth?

11. What is a glacier? What work does it do?

12. Mention the chief agents in the destruction of the Earth's surface. What processes compensate to some extent for this destruction?

13. What is the atmosphere?

14. How are winds caused?

15. Explain the trade-winds? What is their direction in the Southern Hemisphere, and why?

16. What are the monsoons? Why does the north-west monsoon in Australia bring rain? At what time of year does it blow? Explain the south-west monsoon of India and China.

17. Explain land and sea breezes. Where are they generally found?

18. What is a cyclone? What are storm-waves?

19. What is the cause of rain? What is meant by saying that the rainfall of a place is 28 inches? Explain how it is that some parts of the world are practically rainless.

20. What is meant by climate? Upon what does it chiefly depend? Why is the snow-line higher on the northern side of the Himalaya than on the southern side? How is the climate of a place affected by (1) the neighbourhood of mountains, (2) the nature of the soil, (3) the presence of forest? The height of Darjeeling being 6900 feet, how many degrees should its temperature be below that of the plains?

21. What are isothermal lines? How do they illustrate the effect of the sea upon temperature?

22. What is an extreme climate? Under what circumstances should we expect to find a climate moderate and equable? Which of the following places has the most equable climate: Genoa, Lisbon, London?

23. What is mean sea-level? What is the greatest depth of ocean? How does this compare with the height of the highest land?

24. Why is the water of the ocean salt? Why are some seas salter than others?

25. On what does the surface temperature of ocean water depend?

26. What differences of colour in ocean water are found? Explain them.

27. What is a wave? How is surf produced?

28. What is the cause of the tides? Why are they nearly an hour later every day at the same place? Why does the tide rise higher at Bombay than at Colombo? What is a bore?

29. How are ocean currents produced? Describe the causes of the Gulf Stream, and state whether the Stream has any effect on the climate of the United Kingdom. What is the Kuro Siwo?

## The Distribution and General Features of Land and Water.

60. If we look at a globe and observe how land and water are distributed over the surface of the Earth, we notice the following points:

(i.) There is much more water than land.

Nearly three-quarters of the surface of the Earth is water. The total area of the Earth's surface is 198 millions of square miles: 146 millions of square miles are water, and 52 millions of square miles are land.

(ii.) Most of the land is in the Northern Hemisphere.

There is nearly three times as much land in the Northern Hemisphere as there is in the Southern Hemisphere. London is very nearly in the middle of this great land-mass. New Zealand is in the middle of the great water hemisphere.

(iii.) The land breaks up into peninsulas pointing south.

South America and Africa taper towards the south, and in both Europe and Asia the peninsulas stretch southwards. Italy, Scandinavia, India, Indo-China, Korea, Kamchatka are examples.

(iv.) The world has two great land-masses, one to the east and one to the west.

Europe, Asia, and Africa really form a whole, to which Australia is attached by a chain of islands. North and South America form an entirely separate mass of land.

(v) The general direction of the eastern land-mass is across the world—east and west, while the general direction of the western land-mass is up and down—north and south.

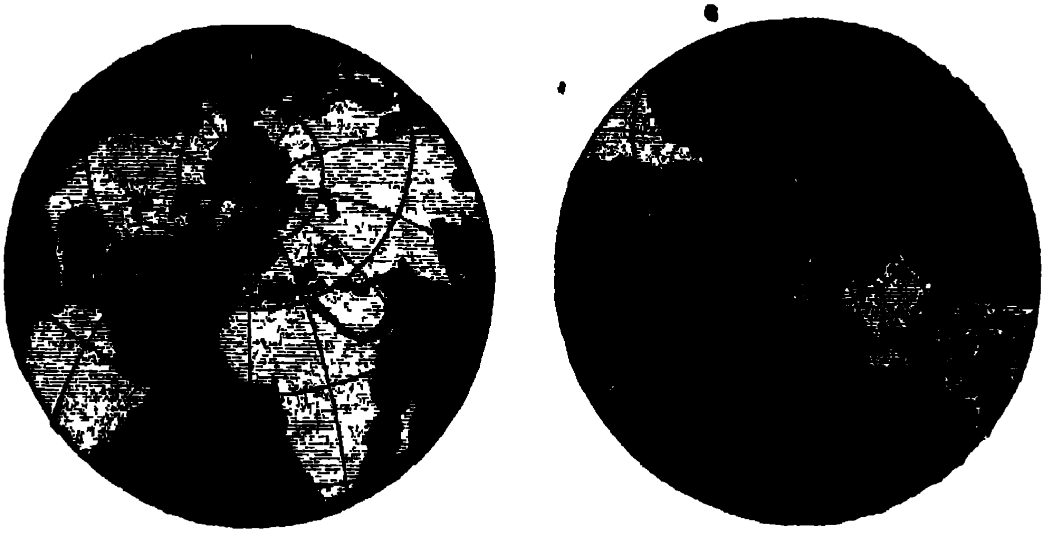


FIG. 51.—Land and water hemispheres.

61 **The Continents.** The great divisions of land are called continents. **Europe, Asia,** and **Africa,** which have been longest known to civilized mankind, form what is called the **Old World,** which extends through about 200 degrees of longitude—more than half-way round the world. Europe and Asia together really form a single division of land, which is called **Eurasia.** It is merely custom which makes them two separate continents. **North** and **South America,** discovered about four hundred years ago, are the **New World,** which stretches over about 140 degrees of latitude. Australia, New Zealand, New Guinea, and the islands of the Malay Archipelago lying between it and Asia, together with the island archipelagoes of the Pacific Ocean, form the great ocean continent of **Australasia.**[1]

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[1] Austral, south; and Asia. The name suggests the geographical position of this continent, and the name of its principal country.

| The Continents. | Area in Millions of Square Miles. | Average Height in Feet. | Highest Point in Feet. |
|---|---|---|---|
| Asia, | 16·4 | 3000 | Mount Everest; 29,000 feet. |
| Europe, | 3·9 | 950 | Mount Blanc; 15,800 feet. |
| Africa, | 11·6 | 2000 | Mount Kilima-Njaro; 19,700 feet. |
| North America, | 9·4 | 1900 | Mount M'Kinley; 20,500 feet. |
| South America, | 6·9 | 2000 | Mount Aconcagua; 23,000 feet. |
| Australasia, | 4 3 | ? | Charles Louis Mountains in New Guinea; 16,700 feet |
| Antarctica, | ·26 | | |
| Total Land, | 52·8 | | |

62. **The Oceans.** The great divisions of water are called **oceans.** They all communicate with one another, but are, except in the case of the Antarctic Ocean, sufficiently separated by the land-masses of the world to be clearly distinguishable.

The **Arctic Ocean** surrounds the North Pole, and is almost completely enclosed by the northern coasts of Europe, Asia, and North America.

The **Antarctic Ocean** surrounds the South Pole. It has no definite boundary to separate it from the southern portions of the Atlantic, Pacific, and Indian Oceans.

The **Atlantic Ocean** lies between America on the west and Europe and Africa on the east. Although not so large as the

Pacific it has a much greater drainage area, for nearly all the large rivers of America flow into it, and, through the Mediterranean and the Baltic, it receives the waters of all the rivers of Europe except the Volga. It also receives some of the largest rivers of Africa.

The Atlantic, being the narrower of the oceans separating the Old World from the New World, and being also the ocean which washes the shores of Europe and the coast of America which has been settled longest, is a great highway of trade. Moreover, its coast line is much more winding and broken than that of the Pacific. It may be said to wash the *commercial* coasts of the continents which bound it.

The **Pacific Ocean** lies between Asia and the main mass of Australasia on the west, and America on the east. It is almost shut in on the north, being only connected with the Arctic Ocean by the narrow Bering Strait.

The Pacific is by far the largest ocean. Its area is greater than that of all the land of the earth, and its width at the equator is more than 10,000 miles. It is also the deepest ocean. It has been sounded to a depth of over 30,000 feet near the Fiji Islands.

The Pacific is shut in on the American side by the long chain of the Andes and the Rocky Mountains, which have a very short slope on the west. Consequently this ocean receives little water from America. From Asia it receives the drainage of Eastern Siberia, China, and part of the Indo-China Peninsula.

| Oceans | Area in Millions of Square Miles. |
|---|---|
| Arctic, - - | 4·8 |
| Atlantic, - - | 35· |
| Pacific, - - | 67·8 |
| Indian, - - | 28·6 |
| Antarctic, - - | 8·5 |
| Total Ocean, - | 144·7 |

The great majority of the active volcanoes of the world are found round the Pacific. It is also the ocean of coral islands.

The **Indian Ocean** lies between Africa on the west and Australasia on the east. It is shut in on the north by Asia. This ocean is smaller than either the Atlantic or the Pacific, but it has a very important drainage area. It receives the waters of the great rivers of India and South-Western Asia, and the drainage of South-Eastern Africa. It is the ocean of monsoons.

FIG. 52.—Norwegian Fiord.

63. **Seas.** Portions of ocean more or less cut off from it by land are called seas. The Caspian Sea is the only one which has no connection whatever with the ocean.

The chief seas connected with the Atlantic Ocean are the **Mediterranean**, the largest of all seas, the **Black Sea**, the **Baltic Sea**, and **Hudson's Bay**. These are almost entirely enclosed. The **North Sea** or **German Ocean**, the **Irish Sea**, the **Carribean Sea**, and the **Gulf of Mexico** are more open.

Connected with the Pacific Ocean the **Yellow Sea** and the **Gulf of California** are the most nearly cut off from it. The **Bering Sea**, the **Sea of Okhotsk**, the **Japan Sea**, the **East China Sea**, and the **China Sea** are only partially enclosed.

The **Red Sea** and the **Persian Gulf** are only connected with the Indian Ocean by narrow straits. The **Arabian Sea** and the **Bay of Bengal** are huge bays.

## The Sea in Relation to Land.

64. **Bays and Gulfs** are portions of sea running up into the land. Bays have wide openings towards the sea; gulfs have narrow openings, and, in proportion, run further into the land

These distinctions are not always maintained. The Gulf of Lions, for example, is properly a bay, and the Bay of Fundy is properly a gulf. Hudson Bay is an inland sea, and so is Baffin Bay. The Adriatic Sea is a gulf which is smaller than the Persian Gulf.

**Frith, firth, fiord, loch, lough** are other names for gulf which have a local usage.

A **Strait** is a channel of the sea which separates two portions of land and connects two portions of sea.

**Sound, channel, belt** are other names which are sometimes used for strait.

| Important Straits | Separating | Connecting |
|---|---|---|
| Dover, | England and France, | The North Sea and the English Channel. |
| Gibraltar, | Europe and Africa, | Atlantic and Mediterranean |
| Dardanelles, | Europe and Asia, | Aegean Sea and Sea of Marmara. |
| Bosporus, | Europe and Asia, | Sea of Marmara and Black Sea. |
| Bab-el-Mandeb, | Asia and Africa, | Red Sea and Indian Ocean |
| Malacca, | Malay Peninsula (Asia) and Sumatra (Australasia), | Indian Ocean and China Sea |
| Torres, | New Guinea and Australia, | Indian Ocean and Pacific |
| Magellan, | Patagonia and Terra del Fuego, | Atlantic and Pacific. |
| Bering, | Asia and North America, | Arctic and Pacific |
| Davis, | North America and Greenland, | Atlantic and Baffin Bay |

## Land in Relation to Sea.

65. **Islands.** Land which is surrounded by water and thus cut off from other land is called an **island**. Strictly speaking, therefore, America, Eurasia, and Africa are islands. But, as we have seen, these great masses of land are called continents

Australia also is sometimes called a continent, but it may be regarded as the largest island in the world, the principal member of the ocean continent of Australasia.

Islands are really the highest portions of submarine mountains or mountain ranges. They are thus often connected with one another and with the neighbouring continents by submarine ridges, over which the sea is comparatively shallow. Sumatra, Java, Borneo, the Philippines, and others in the Malay Archipelago are thus connected with Asia. The submarine ridge ends with the island of Bali. Lombok and the islands to the east are connected with Australia. The British Islands are similarly connected with Europe, Sicily with Italy, Ceylon with India.

Fig. 53.—Barren island in the Bay of Bengal · an isolated volcanic island.

Small islands are often due to volcanic agency, which has raised them above sea-level. Such are St. Helena and Ascension in the Atlantic Ocean. Sometimes islands are built up of the remains of small marine animals, of which coral is the best known. Coral islands abound in the Pacific. They are generally low, and when they have the shape of a ring surrounding a portion of sea they are called **atolls.** The still sheet of water inside is called a **lagoon.** It generally has communication with the sea at one point on the leeward side, *i.e.* the side away from the prevailing winds.

When the coral does not reach the surface of the sea it forms what is called a reef. The largest reef in the world is the Great Barrier Reef, which runs for a thousand miles along the north-east coast of Australia, forming a natural breakwater. The channel inside the reef is much used by shipping.

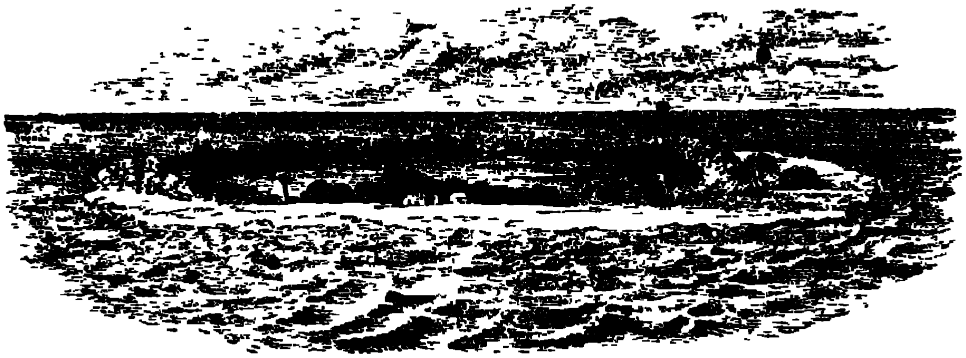

FIG. 54 —Atoll and Lagoon.

An **archipelago**[1] is a collection of islands. The name in its original sense was first given to the Aegean Sea, but as that sea contains a great number of islands the word came to mean a sea studded with islands, and then a cluster of islands.

The Malay Archipelago is the largest archipelago in the world.

| The largest islands are | | Area in square miles | Geographical Situation. |
|---|---|---|---|
| 1 | Greenland, - | 700,000 | Arctic Circle. |
| 2 | New Guinea, - | 300,000 | Australasia. |
| 3 | Borneo, - - | 285,000 | Malay Archipelago. |
| 4 | Madagascar, - | 228,000 | East Africa. |
| 5 | Sumatra, - - | 170,000 | Malay Archipelago. |
| 6 | Great Britain, - | 88,000 | Western Europe. |
| 7 | Nippon, - - | 86,000 | Japan. |

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[1] Gk., *archi*, chief ; *pelagos*, sea.

**66. Coast Features.** **Coast** or **sea-shore** is the edge of the land next the sea. It may consist of steep and high cliffs, and then is generally rocky; or it may be low and shelving, in which case it is usually sandy or muddy. A coast may have many inlets from the sea, large or small It is then called a **broken or indented** coast, like that of Greece. If it has few inlets it is called **regular** or **unbroken,** like the west coast of India.

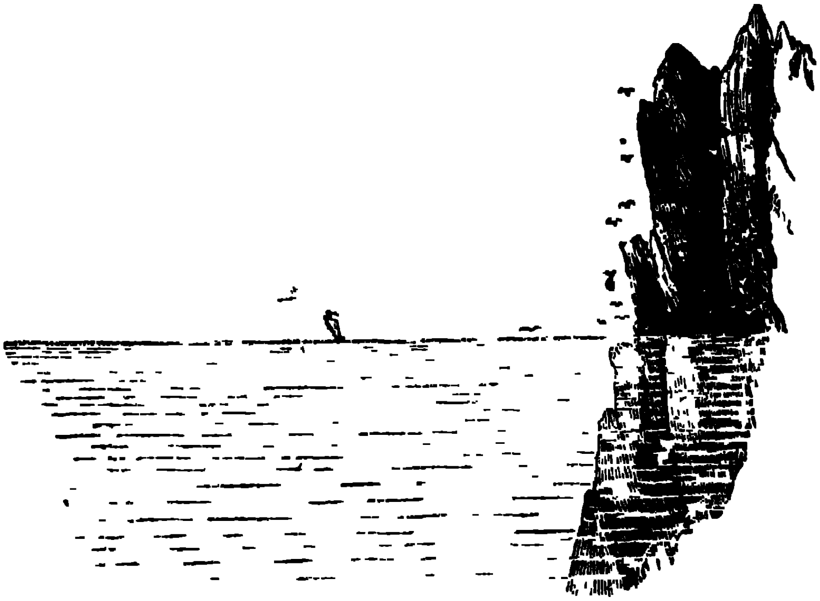

FIG 55 —Steep shore descending abruptly into deep water.

Special names are sometimes given to portions of sea coast. Thus the west coast of Peninsular India is called the **Malabar Coast**; the east coast is called the **Coromandel Coast.** Different parts of the west coast of Africa are called the **Gold Coast,** the **Ivory Coast,** the **Slave Coast,** etc.

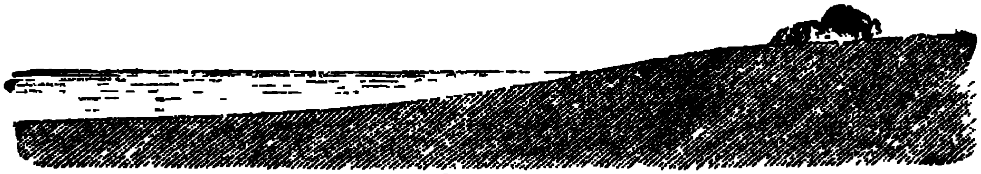

FIG. 56.—Low shore shelving into shallow water.

A **Cape** is a portion of land jutting out into the sea. When it is high and bold—the end of a mountain ridge or plateau—it may be called a **promontory** or **headland,** like Beachy Head on the south coast of England.

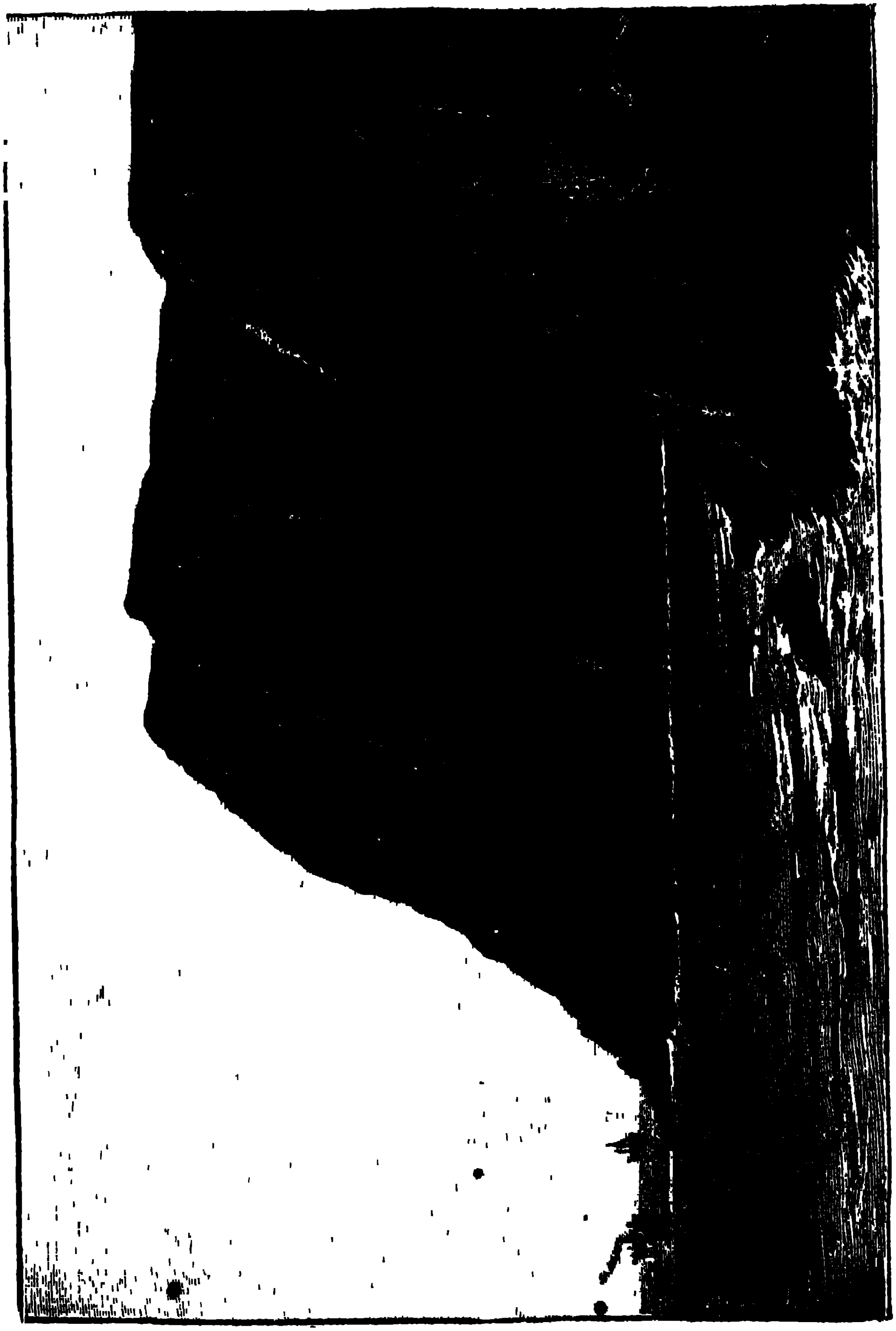

FIG. 57.—North Cape, Norway.

Other names for cape are **bill** (Portland Bill), **ness** (Orford Ness), **mull** (Mull of Cantire), **butt** (Butt of Lewis), **point** (Point Palmyras).

| Important Capes | Geographical Situation |
|---|---|
| North Cape, - | Extreme north of Europe. |
| Cape Matapan, - | ,, south of Europe. |
| East Cape, - | ,, east of Asia. |
| Cape Farewell, - | ,, south of Greenland. |
| Cape Horn, - - | ,, south of America. |
| Cape of Good Hope, | ,, south of Africa |
| Cape de Verde, - | ,, west of Africa |
| Cape Guardafui, - | ,, east of Africa. |
| Cape Comorin, - | ,, south of India. |
| Cape Wrath, - - | ,, north of Scotland. |
| Lizard Point, - - | ,, south of England. |

67. A **Peninsula**[1] is land which is bounded on most sides by water. Sometimes a peninsula is so nearly surrounded by water that only a narrow neck of land joins it to other land. A neck of land thus joining two larger portions is called an **isthmus**.

North and South America are connected by the Isthmus of Panama, so that the two continents of the New World are really enormous peninsulas. Spain and Portugal, often called **The Peninsula**, are connected with France by a wide isthmus. Peninsular India has no isthmus at all. It is broadest where it joins the mainland of Asia. In fact, many peninsulas are capes on a large scale, *e.g.* India, Italy, Asia Minor, Korea, etc.

## Features of Land.

68. **Relief.** The arrangement of land in regard to height above sea-level—the rise and fall of surface—is its relief. It is

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[1] Lat., *paene* or *pene*, almost; *insula*, an island.

what is represented by the shading in ordinary maps, and by the height lines in contour maps. Hence, relief includes mountains, hills, valleys, and plains. It determines the flow of rivers, and the formation of lakes.

The general character of the relief of land may be clearly shown by sections. Suppose a country were cut straight across, and that all the land on one side of the cut were cleared away down to sea-level, a drawing of the part of the earth's crust thus left exposed would be a section. A section across Bengal from Chittagong to Bettiah would be an uninteresting straight line, since the country between these two places is uniformly flat. A section along the Tropic of Cancer, or along the 80th meridian of longitude has a much more varied outline (Figs. 58 and 59).

SECTION from PURI to MOUNT EVEREST.

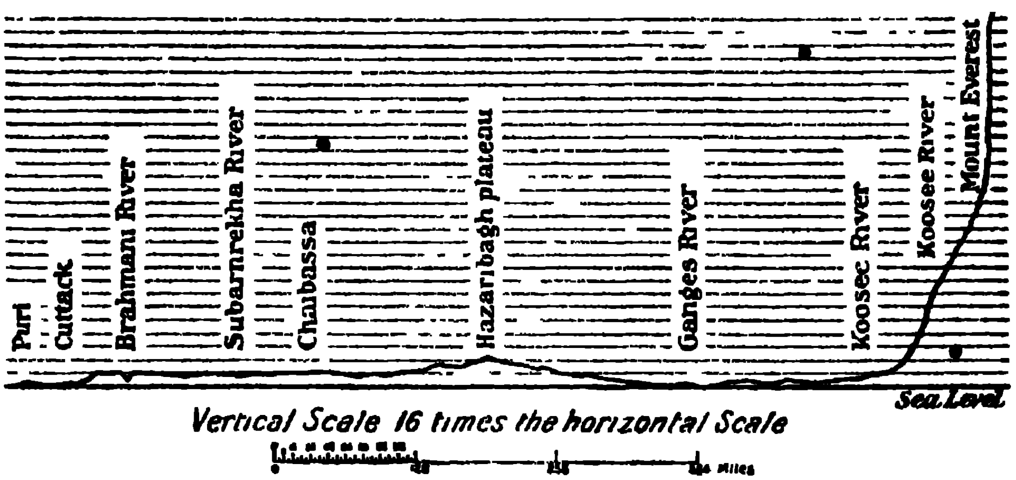

FIG. 58.

SECTION across BENGAL along the TROPIC of CANCER.

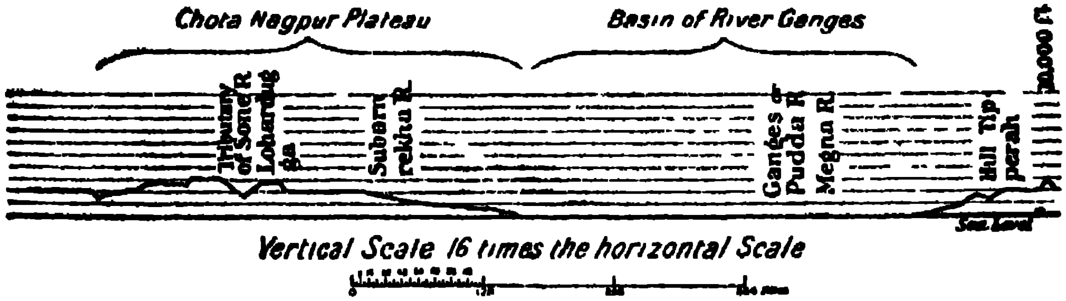

FIG. 59.

69. **Plains and Plateaux.** Tracts of low-lying land, whose surface is marked by no great changes of level, are called plains.

The greatest plain in the world is that which occupies northern Europe and Asia, and extends from the Atlantic to the Pacific.

Plains often have special names, *e g.* the **prairies**[1] and **savannas**[1] of North America, the **llanos**,[2] **selvas**,[3] and **pampas**[2] of South America, the **steppes**[4] of European and Asiatic Russia, the **tundras**[5] of the Arctic Regions.

**Plateaux** or **Tablelands** are highland plains. The ascent to them from the low country is generally steep on one side at least, and their edges are often marked by distinct mountain ranges (Fig. 38).

The loftiest tableland in the world is the Plateau of Tibet, which has an average elevation of 13,000 feet, and rises in the north to 15,000 feet. The Himalaya Mountains form its southern edge. The Plateau of Bolivia in the Andes is between 12,000 and 13,000 feet in height.

70. **Mountains and Hills.** These are portions of the earth's crust rising high above the general level of the surrounding country. The distinction between mountains and hills cannot be drawn at any definite height. Hills are the lower heights and mountains the greater heights of a country. The Nilgiri "Hills" of Southern India rise to twice the height of any "mountain" in Great Britain.

Mountains may stand singly, like the Peak of Teneriffe or Etna. Such **isolated** mountains are generally volcanoes, or of volcanic origin. Mountains more or less in line, connected by continuous high ground, form a **range** or **chain** of mountains. When not in line they form a **group**. Mountain ranges are often double or treble, like portions of the Himalaya; and sometimes extensive plateaux, like that of Bolivia in the Andes, lie between the ranges.

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[1] French, *prairie*, a meadow; Spanish, *savanna*, a meadow. [2] *llanos*, Spanish, from Lat *planus*, plain; *pampas*, from Peruvian *pampa*, a plain. [3] Spanish, from Lat. *silva*, a wood [4] Russian, *stepe*, a waste. [5] Russian name for the mossy frozen plains of Arctic Siberia.

The general arrangement of mountains in a country or continent, is called its **mountain system.**

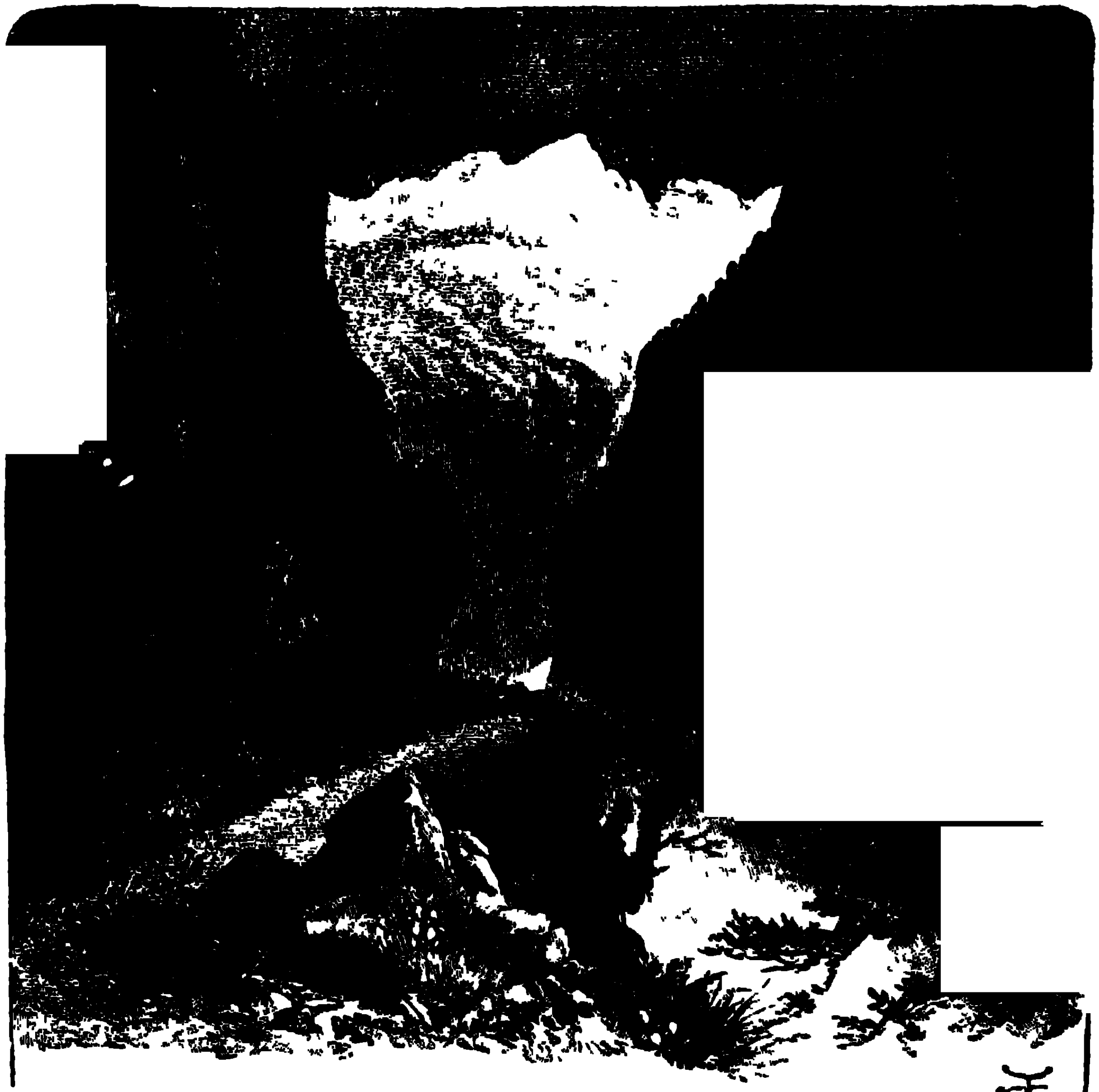

FIG 60—A pass in the Himalayas.

The lowest points in a range are naturally the places where it is easiest to *pass* from one side of the range to the other Such crossing-places are accordingly called **passes.** The passes over the Alps are about 7000 feet high; those over the Himalaya vary from 14,000 to 18,000 feet, and those over the Andes vary from 11,000 to 16,000 feet.

| Chief Heights of the several Continents | Height in Feet. | Range. | Situation |
|---|---|---|---|
| Everest, - - | 29,000 | Himalaya, - - - | Nepal |
| Godwin-Austen, - | 28,260 | Karakoram, - - | Kashmir. |
| Kanchanjanga, - | 28,150 | Himalaya, - - - | Sikkim. |
| Mont Blanc, - | 15,800 | Alps, - - | France |
| Monte Rosa, | 15,200 | Alps, - - - - | Borders of Switzerland and Italy. |
| Finsteraarhorn, - | 14,000 | Alps, - - - - | Switzerland. |
| Kilima-Njaro, - | 19,700 | (Volcanic mountain), - | German East Africa |
| Ruwenzori, - - | 19,000 | (Volcanic mountain), - | British East Africa |
| Kenia, - - - | 18,000 | (Volcanic mountain), - | British East Africa. |
| Mount M'Kinley, - | 20,500 | Alaskan Range, - - | Alaska |
| Mount Logan, - | 19,500 | N W. Canadian Coast Range, | Canada. |
| Orizaba, - - | 18,300 | Edge of Mexican Plateau (volcano), | Mexico. |
| Aconcagua, - - | 23,000 | Andes (Volcanic), - - | Argentina |
| Sorata[1], - - | 21,700 | Andes, - - - - | Bolivia. |
| Tupungato, - - | 21,500 | Andes (Volcanic), - - | Chile. |
| Charles Louis Mt, | 16,700 | Charles Louis Range, - | Dutch New Guinea |
| Mauna Kea, - | 13,900 | (Volcanic), - - - | Hawaii, Sandwich Isl's. |
| Kinabalu, - - | 13,700 | - - - - - - - | British North Borneo. |

71. **Drainage.** Relief determines how the rain that falls, and the water that gushes out on the surface of the ground shall flow away. Hence the **drainage system** of a country depends on its relief. Water flows from higher ground to lower ground, down the slopes of the land. Such land-slopes are called **watersheds.**[2]

At the top of a watershed the land begins to slope another way to form another watershed. The ridge or crest where two watersheds meet is called a **water-parting**, or **divide**, because it parts or divides the water which flows down one watershed from that which flows down the other.

---

[1] A recent traveller thinks Sorata fully 24,000 feet high. If so, it is the highest peak in the Andes.

[2] The term *watershed* is often used in the same sense as *water-parting* or *divide*. It is convenient, if not more accurate, to give the name watershed to the land-slopes which carry the water off, rather than to the mere line that parts directions of flow.

Every watershed also meets another watershed at the bottom of its slope, where the water that flows down the two watersheds collects to form a stream. Two watersheds thus meeting form a **valley**.

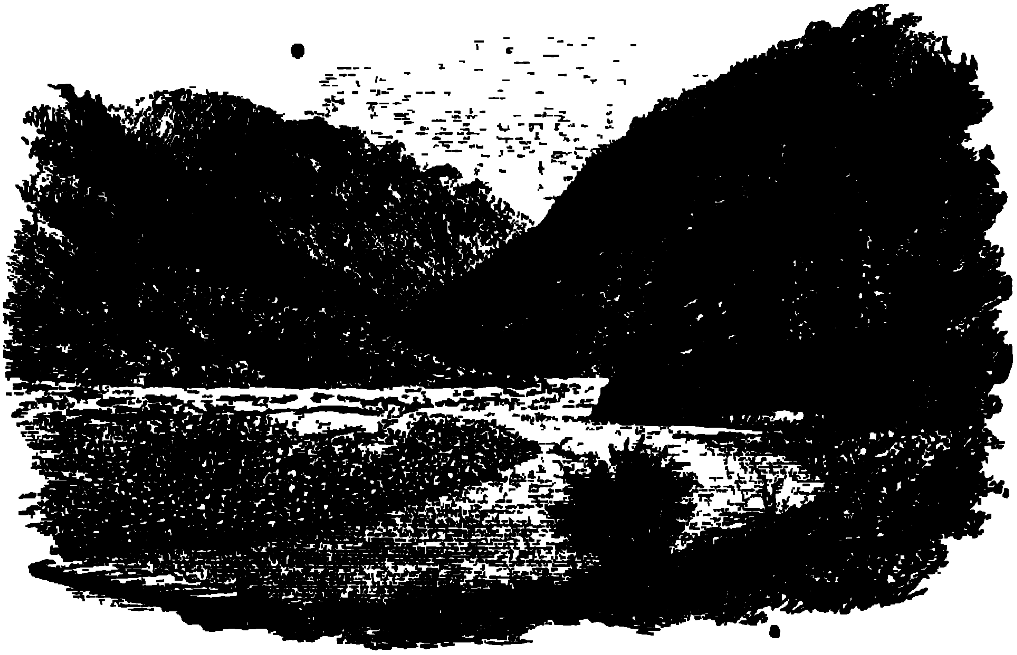

FIG. 61 – The Ganges Valley at Derah

A valley is often described as hollow ground between hills, that is, as being formed by two *steep* watersheds, whose water-partings are the crests of mountain ridges. As we have seen, this need not be so. Any two watersheds meeting at the bottom of their slopes form a valley. We may therefore speak of the Ganges valley, even where the slope of its watersheds is so gentle that all seems one flat plain. In travelling from Lahore to Delhi the railway crosses the water-parting between the streams which flow to the Indus, and those which flow to the Ganges. But the country appears quite flat, and the only indication of having crossed the water-parting is the different direction in which the rivers are flowing.

If in the map of a flat country we draw a line separating the sources of rivers which flow in one direction from those of rivers which flow in the opposite direction, this line will mark the water-parting. (Fig. 62.)

72. **Rivers.** Small watersheds form small valleys with small streams draining them. Small streams unite to form larger streams flowing through larger valleys. In the end, through the union of many small streams, one is formed which is large enough to be called a **river.** In fact, a river is the "main drain" of the country through which it flows. The whole area of country which supplies water to it, that is, the watersheds of the main stream, together with the watersheds of all its tributaries, form the **basin** or **drainage area** of the river. The size of a river depends on the size of its basin, and on the rainfall over the watersheds that compose it. The **source** of a river is the place where it begins to flow. The **channel** or **bed** of a river is the depression between its banks which, except in time of flood, contains its water. The **course** of a river is the line followed by its channel from source to sea. The **right bank** of a river is the one on the right when we look in the direction in which the river flows; the opposite bank is the **left bank.** The **mouth** of a river is the place where it ends in the sea, or a lake, or at its junction with another river.

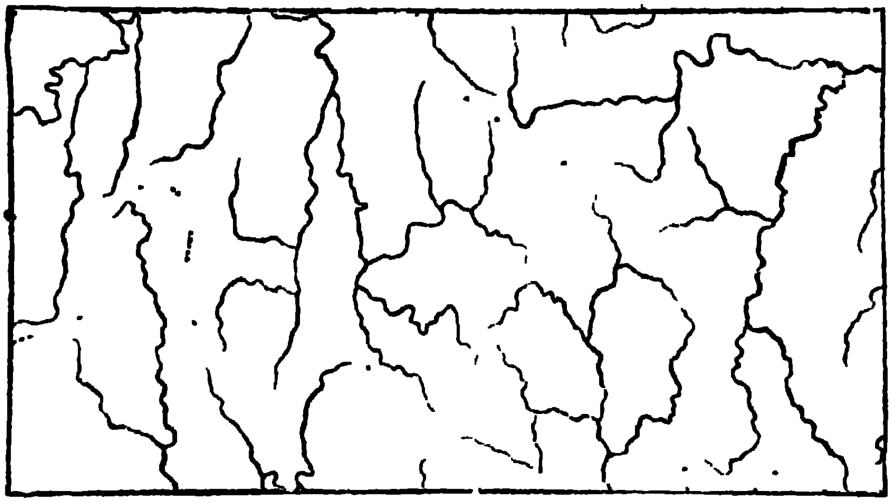

FIG. 62 —Water-partings in a flat country

Many rivers, especially if they flow into a lake or a tideless sea, form **deltas** (§ 40). When the mouth of a river opens widely to the sea, so that river and sea water mingle in it, owing to the influence of the tides, it is called an **estuary**[1]

| Typical Rivers of the several Continents | Source | Mouth | Length in Miles | Area of Basin in Square Miles | Chief Tributaries. |
|---|---|---|---|---|---|
| Yang-tse-kiang | Tibet | East China Sea | 3000 to 3500 | 700,000 to 750,000 | Han kiang |
| Ob | Altai Mountains | Arctic Ocean | 3225 | 1,150,000 | Irtysh |
| Ganges | Himalaya | Bay of Bengal | 1455 | 397,000 | Gogra |
| Euphrates | Armenia | Persian Gulf | 1600 | 206,000 | Tigris |
| Volga | Valdai Plateau | Caspian Sea | 2325 | 563,000 | Oka |
| Danube | Black Forest | Black Sea | 1800 | 315,000 | Theiss |
| Rhine | Alps | North Sea | 810 | 86,000 | Moselle |
| Nile | Lake Victoria Nyanza | Mediterranean | 3670 | 1,620,000 | Bahr el Ghazal<br>Blue Nile |
| Congo | N E of Lake Bangweolo | Atlantic Ocean | 2800 | 1,000,000 | Kassai<br>Sankuru |
| Niger | Western Sudan | Atlantic | 2600 | 780,000 | Benue |
| Zambesi | Central South Africa | Indian Ocean | 1600 | 550,000 | Chobe |
| Mississippi | Minnesota | Gulf of Mexico | 4194[2] | 1,240,000 | Missouri,<br>Ohio |
| St Lawrence | Minnesota | Atlantic | 2100 | 530,000 | |
| Amazon | Andes Mountains | Atlantic | 3415 | 2,320,000 | Rio Nigro,<br>Madeira |
| Parana | Brazil | La Plata Estuary | 2400 | 1,000,000 | Paraguay |
| Murray | Australian Alps | Indian Ocean | 1100 | 270,000 | Darling,<br>Murrumbidgee |

A river flowing into another river is called a **tributary**[3] or **affluent.**[4] The point of conjunction is called their **confluence.**[5]

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[1] Lat., *aestus*, tide.

[2] This is the length to the source of the Missouri in the Rocky Mountains. The length of the Mississippi proper is 2490 miles.

[3] Lat., *tribuere*, to pay.

[4] Lat., *affluere* (*ad fluere*), to flow to.

[5] Lat., *confluere*, to flow together.

When a river is formed by the union of several head streams the source of the longest of these is usually taken to be the source of the river. Similarly, the length of a river is taken to be the length from its mouth to its most distant source. But, as a matter of fact, local usage and tradition often determine which of its head waters shall be regarded as the source of a river, and which of its branches shall be considered as the main stream. The result does not always agree with geographical facts. The upper Mississippi, for example, is neither the largest nor the longest of its head streams, and its length is reckoned from the source of the Missouri, its great tributary. The popularly accepted source of the Ganges is neither the most distant nor the most important source. Difficulties also arise from the fact that different portions of a river have often different names. The Amazon is called successively the Marañon, the Solimões, and the Amazon; and the Marañon is not the longest of the head streams. The Ganges, again, is called successively the Bhagirathi, the Ganges, the Padda, and the Meghna.

73. **Inland Drainage.** Drainage is not always seaward. There are considerable areas of the Earth's surface which drain to inland depressions, occupied by lakes or swamps.

The largest system of inland or continental drainage is in central Eurasia, where the Caspian Sea, the Sea of Aral, and Lake Balkhash receive the drainage of South-Eastern Russia and Cental Asia. The Volga, the largest river of Europe, belongs to this system; also the Oxus and Jaxartes, which flow to the Sea of Aral. Lake Lob Nor in Chinese Turkestan, the Great Salt Lake in North America, Lake Titicaca on the Bolivian Plateau in South America, Lake Chad in the Central Sudan, all receive the drainage of large inland tracts.

74. **Lakes.** A lake is an inland body of water. When it is the goal of a system of inland drainage it is generally salt. The inflow of fresh water is balanced by evaporation, which leaves all the salts dissolved in the water behind. When a lake is merely a great reservoir where water is stored up until it overflows and is passed on, by means of a river, to the sea or to another lake, it is generally fresh.

Thus the Caspian Sea and the Sea of Aral are salt, although they are fed by large rivers. Lake Baikal, whose surplus waters flow to the River Yenisei, is a fresh-water lake. The great Canadian Lakes, which are connected with one another, and feed the River St. Lawrence, form the largest body of fresh water in the world, and have an area rather larger than that of Great Britain.

| Important Lakes. | Situation | Above (+) or below (−) sea-level. | Area in square miles | Outflow | Nature of Water. |
|---|---|---|---|---|---|
| Caspian Sea, | Between Europe and Asia, | −85 ft | 169,000 | None, | Salt |
| Sea of Aral, | Russian Turkestan, | +158 ft. | 26,000 | ,, | Brackish. |
| Balkhash, | ,, ,, | +900 ft | 8,000 | ,, | ,, |
| Baikal, | Siberia, | +1,400 ft | 13,197 | Angara R, | Fresh |
| Urumia, | Persia, | +4,100 ft | 1,600 | None, | Very salt. |
| Van, | Turkish Armenia, | +5,000 ft | 1,425 | ,, | Not salt, but undrinkable |
| Dead Sea, | Palestine, | −1,300 ft | 353 | ,, | Intensely salt and bitter. |
| Ladoga, | Russia, | +55 ft | 7,000 | Neva, | Fresh |
| Onega, | ,, | +236 ft | 3,760 | To Lake Ladoga | ,, |
| Wener, | Sweden, | +143 ft | 2,140 | Göta R into Kattegat, | ,, |
| Geneva, | Between Switzerland and France, | +1,230 ft | 223 | Rhone, | ,, |
| Constance, | Between Switzerland, Germany, and Austria, | +1,305 ft | 206 | Rhine, | ,, |
| Victoria-Nyanza, | Equatorial Africa, | +3,800 ft | 27,000 | Nile, | Fresh. |
| Tanganyika, | ,, | +2,670 ft | 14,000 | Congo, | ,, |
| Nyassa, | S. E. Africa, | +1,570 ft | 14,000 | Shire R into Zambesi, | ,, |
| Chad, | Central Sudan, | +830 ft | 10,000 | Intermittently into Bahr-el-Ghazal, | ,, |
| Superior, | Between the United States and Canada, | +602 ft. | 31,200 | St Mary R into Lake Huron, | Fresh. |
| Michigan, | ,, ,, | +581 ft | 22,450 | Mackinac Strts into L Huron, | ,, |
| Huron, | ,, ,, | +581 ft | 21,000 | St. Clair R and Detroit R into Lake Erie, | ,, |

| Important Lakes | Situation | Above (+) or below (−) sea-level. | Area in square miles | Outflow | Nature of Water |
|---|---|---|---|---|---|
| Erie, - - | Between the United States and Canada, | +573 ft | 9,960 | R Niagara into Ontario L, | Fresh |
| Ontario, - - | " " | +247 ft | 7,240 | R St Lawrence, | |
| Great Salt Lake, | Western United States, | +4,218 ft | 2,000 | None, - | Salt |
| Titicaca, - - | Between Bolivia and Peru, | +12,500 ft | 3,260 | Desaguadero R into Aullagas Salt L. | Fresh, but of bad taste |
| Eyre, - - | Australia, | +70 ft | 4,000 | None, - | Salt |

## The Distribution of Plants and Animals.

75. In all parts of the world we find that plants and animals are adapted by nature to their surroundings The suitability of any place for particular kinds of plants and animals depends chiefly on climate. Temperature and rainfall determine the nature of the vegetation, and upon vegetation animals depend, directly or indirectly, for their existence. Hence the different climates of the world have their characteristic plants and animals, and, as climate varies with latitude (§ 26), the Earth's surface between the equator and the poles may be marked off by isothermal lines into belts varying in the nature of their vegetable and animal life.

Thus the uniformly hot, moist climate of the equatorial regions is marked by dense forests, inhabited by large wild animals, brilliant butterflies and birds.

Outside this equatorial belt is a drier region in which the climate is less uniform. Forest occurs only in patches, and there are large expanses of grass-land inhabited by beasts that graze, and by those that prey upon them. In several parts of the world, notably in Africa, this region is separated from the temperate zone by almost rainless tracts like the Sahara Desert, in which there is little of either vegetable or animal life.

The temperate latitudes are the home of deciduous[1] trees, and the

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[1] Trees that shed their leaves, and remain leafless for part of the year. Lat, *deciduus*, that falls down.

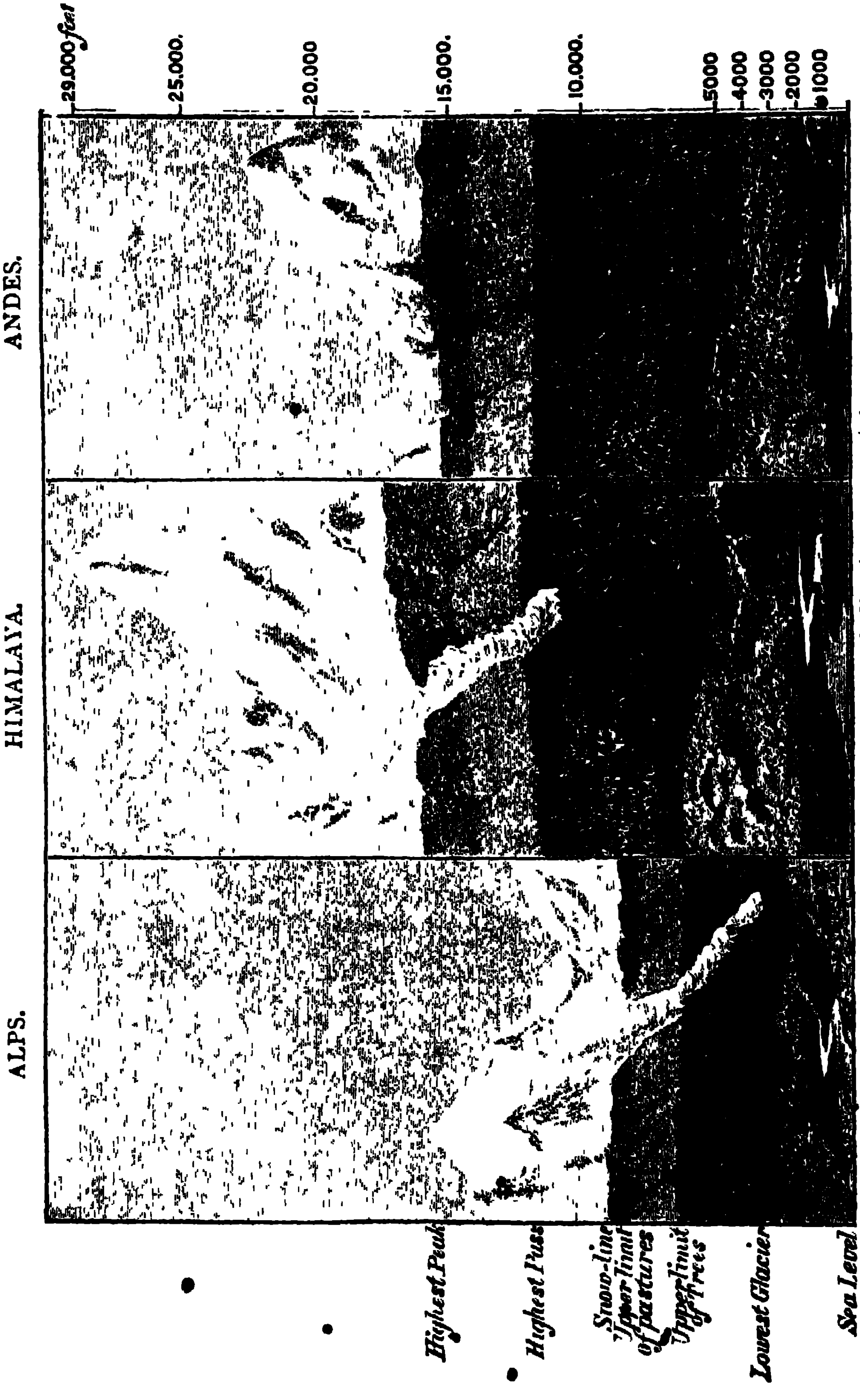

FIG. 63.—Vertical distribution of climate on mountains.

drier parts are marked by treeless grassy plains like the steppes of Russia and the prairies of America. In the northern hemisphere the temperate zone is separated from the Arctic Regions by a belt of evergreen forest, inhabited by fur-bearing animals, which extends across Europe, Asia, and North America. Further north vegetation is stunted, and the frozen Arctic wastes are almost destitute of life

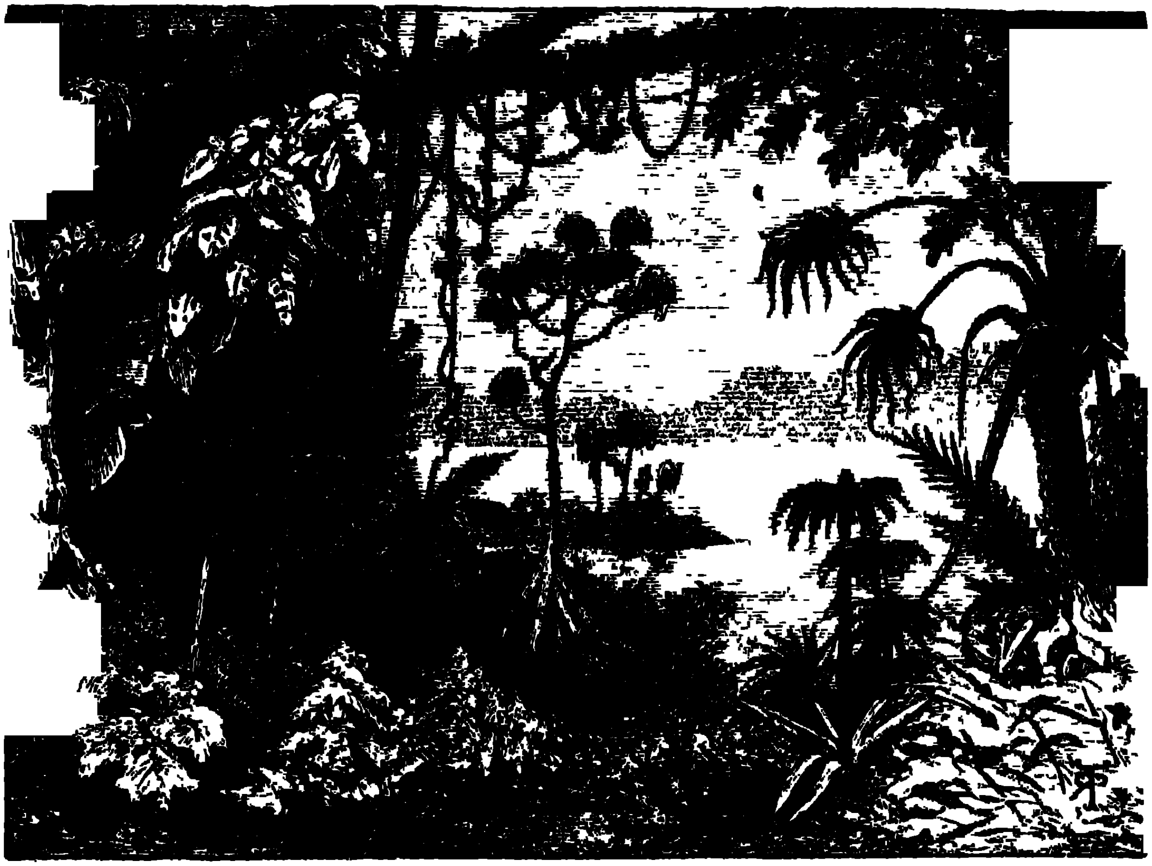

FIG. 64.—On the Amazon Tropical vegetation.

Climate also varies with altitude. Accordingly, in ascending the high mountains in tropics, the same changes of plant and animal life are observed as in travelling from the equator towards the poles.

The bases of the mountains are clothed with dense tropical forest. At an elevation of about 4000 feet trees like those of the temperate zone make their appearance. At about 8000 feet pine forest begins. The limit of trees is about 12,000 feet. Above this shrubs and mosses extend to the snow-line. Animal life undergoes a corresponding change.

76. Even under like conditions of climate the plants and animals of different parts of the world are not the same. This is because the distribution of animals and plants is affected by the geographical arrangement of land and water over the surface of the Earth. America, for example, is, except in the extreme north, widely separated from the Old World, and its discovery made known plants and animals not found in the Old World. Africa is practically an island, and the Sahara Desert is a barrier between the northern and southern portions of the continent. Australia, again, is cut off from the rest of the world, and has a plant and animal life peculiarly its own. Hence it is that many plants and animals are what is called **indigenous**[1] to certain parts of the world, and when they have become established in

FIG. 65.—A fern forest in New Zealand

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[1] Lat., *indigenus*, native.

other parts of the world, where the climate is favourable to them, it is through the agency of man, or through accidental transmission by birds, winds, or ocean currents.

When America and Australia were discovered horses and cattle were unknown there. The descendants of imported stock have now increased to enormous numbers. Cereal food-plants, such as wheat, barley, etc., were similarly unknown, and were introduced from the Old World. To America, on the other hand, the rest of the world owes maize, tapioca, cocoa, and the potato. Europe also got tobacco from America, though it seems probable that it was known in India and Eastern Asia before the discovery of America.

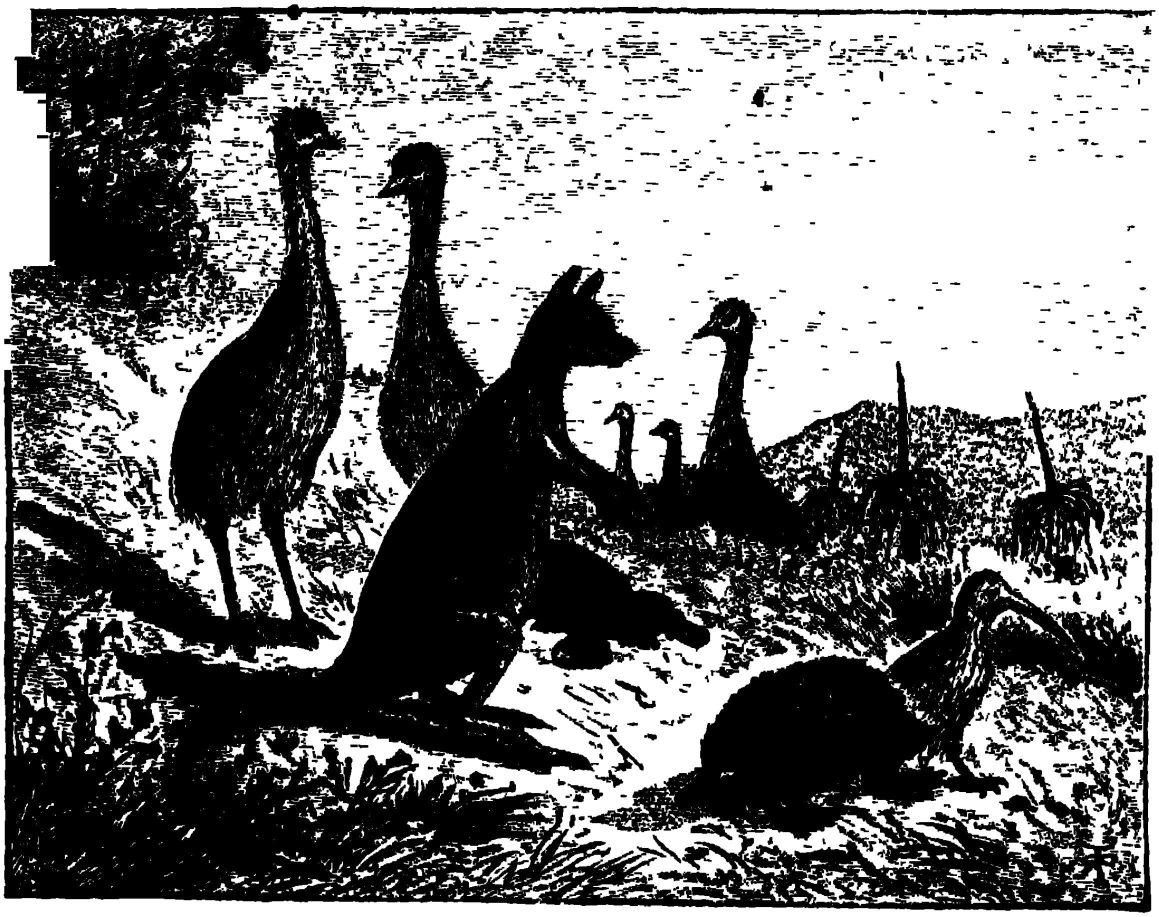

Fig 66.—Characteristic animals of Australia

The Earth has been mapped out into regions according to the nature of the indigenous animal and vegetable life. These are shown in the following table:

| Region | Typical Animals | Typical Plants |
|---|---|---|
| I<br>**Eurasian**, comprising Europe, Asia without India and Southern China, and Africa down to the Tropic of Cancer | Horse, ox, sheep, goat, camel, yak, reindeer, bear, wolf, deer, hare, rabbit; pheasant, grouse, eagle. | Wheat, oats, barley; apple, olive, fig, vine, orange, oak, ash, elm, beech, pine, fir, larch |
| II<br>**Oriental**, comprising India, Indo-China, Southern China, and the Malay Archipelago as far as Wallace's line between Bali and Lombok | Tiger, leopard, jackal, Indian elephant, rhinoceros, bison, buffalo, orang utan; cobra, crocodile (two kinds), python, peacock, jungle fowl | Bamboo, rice, plantain, banyan, mango, sandalwood, coffee-tree, tea-plant, cotton, sugar-cane, cinnamon, nutmeg, pepper, ginger, arrowroot |
| III<br>**Ethiopian**, comprising Africa and Arabia south of the Tropic of Cancer | Lion, African elephant, giraffe, hippopotamus, rhinoceros, zebra, antelope, gorilla, chimpanzee, crocodile, chameleon, ostrich, tsetse fly No deer. | Oil and wine palms, baobab, euphorbia, tamarind, and the heaths |
| IV<br>**Australian**, comprising Australia, New Zealand, and the islands of the Pacific, and the Malay Archipelago east of Wallace's line. | Kangaroo, wombat, platypus or duck-bill, bird of paradise, lyre bird, emu, cockatoo. | Eucalyptus, wattle tree, casuarina, bread-fruit, tree ferns, Kauri pine. |
| V.<br>**North American**, comprising North America down to the Tropic of Cancer. | Musk ox, elk, reindeer, beaver, bison, grizzly bear, prairie dog, puma, opossum, rattlesnake. | Sequoia, Douglas pine, tobacco, maize |
| VI<br>**South American**, comprising the whole of South America, and North America up to the Tropic of Cancer. | Jaguar, tapir, sloth, flat-nosed monkeys, marmoset, ant-eater, blood-sucking bat, llama, alpaca, iguana, boa-constrictor, condor, rhea, toucan, macaw, humming-bird. | Cabbage and ivory palms, mahogany, rosewood, cinchona, cacao, Brazilian rubber tree, potato, manioc (from which tapioca is obtained). |

NOTE.—The mangrove is confined to tidal estuaries, muddy coasts, and salt-water swamps, and abounds all over the tropics. The cocoa nut palm cannot live far from the sea. It is the characteristic tree of tropical islands The date-palm is the characteristic tree of the oasis. It flourishes in the dry climate of northern Africa and south-western Asia

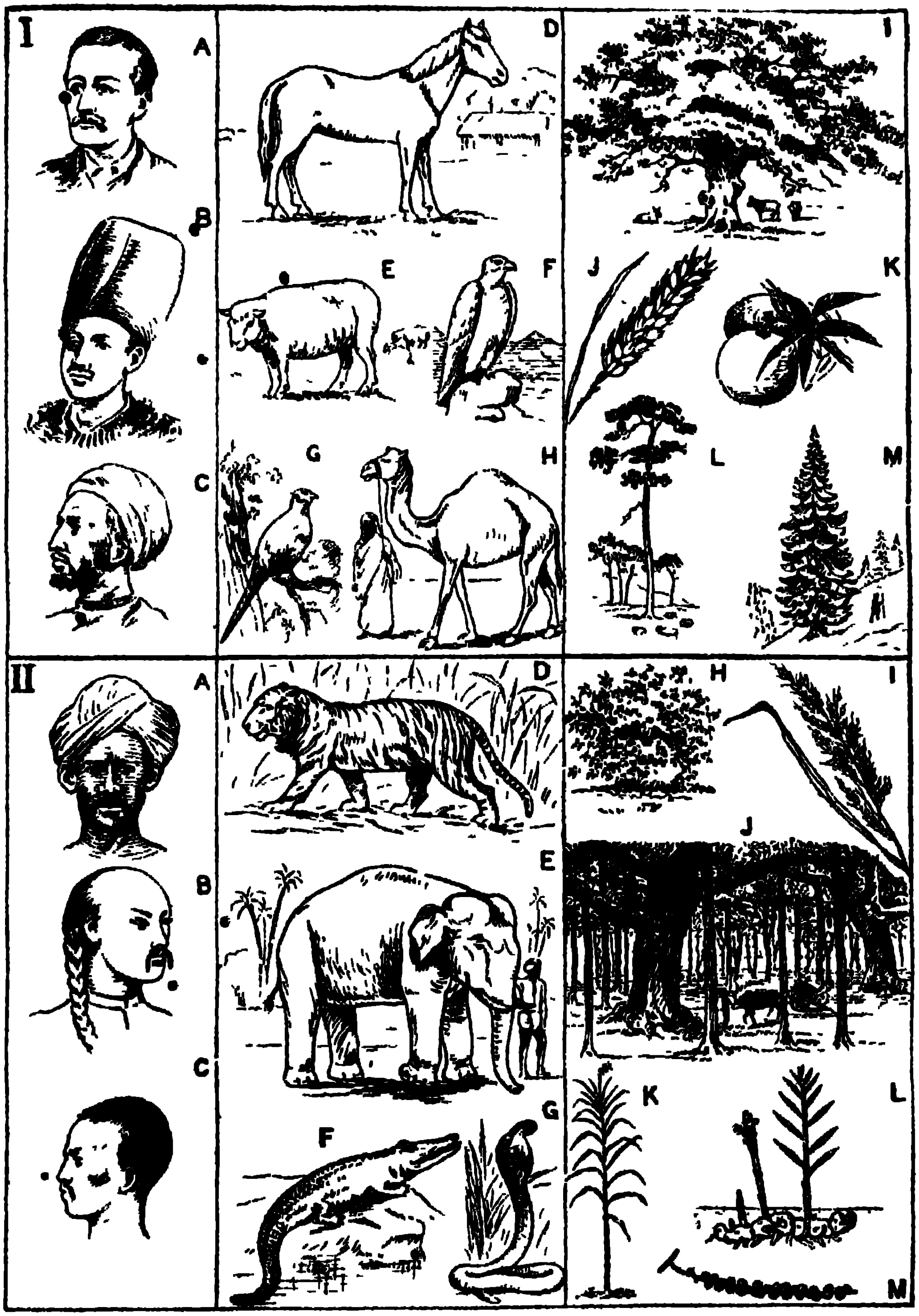

FIG. 67.—I. EURASIAN: A, European; B, Persian; C, Arab; D, horse; E, sheep; F, eagle; G, pheasant, H, camel, I, oak, J, ear of wheat, K, orange; L, pine, M, larch

II. ORIENTAL. A, Indian; B, Chinese, C, Malay; D, tiger; E, elephant; F, crocodile; G, cobra; H, tea plant, I, rice, J, banyan, K, sugar cane; L, ginger; M, pepper.

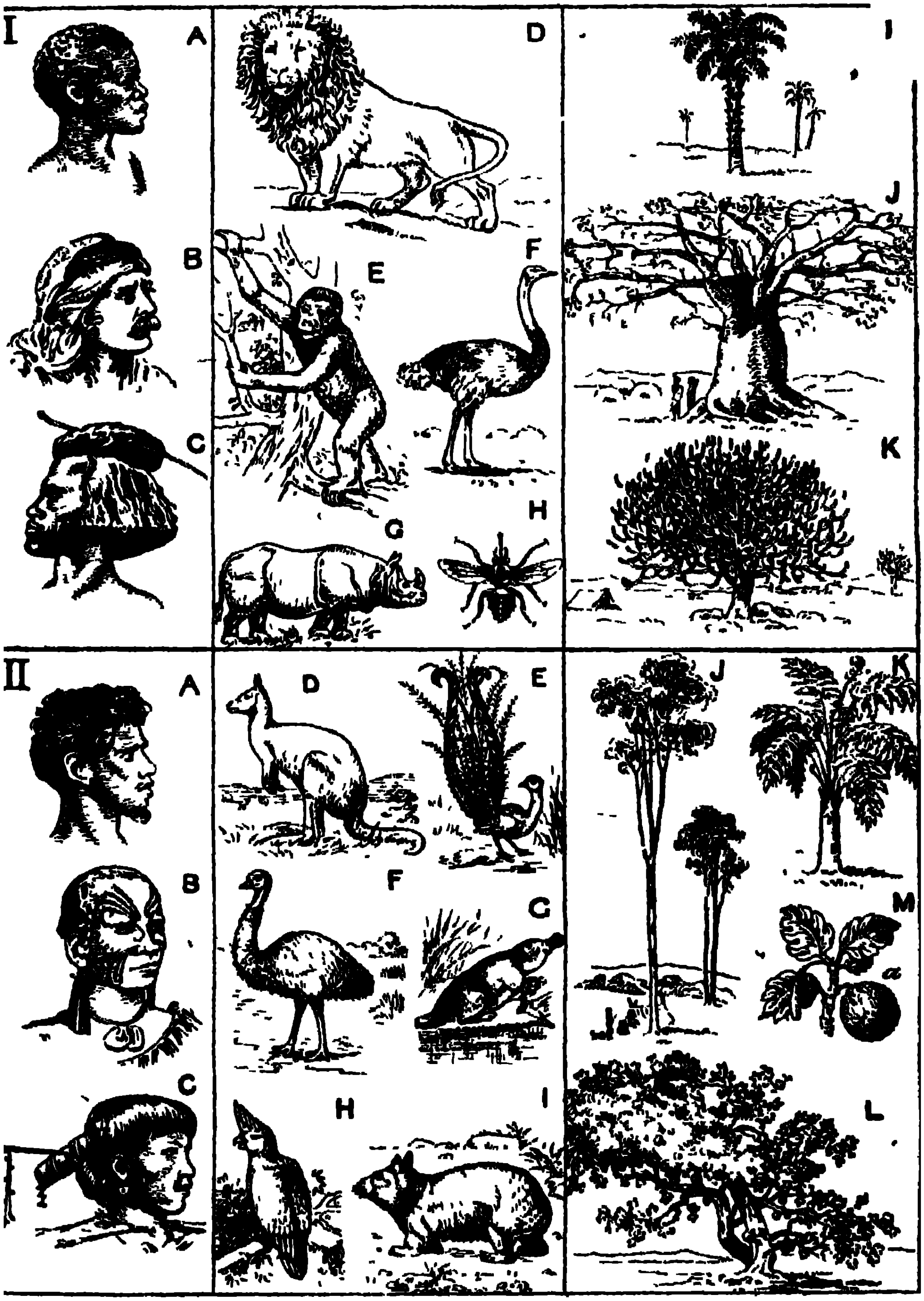

FIG. 68.—I. ETHIOPIAN: A, negro; B, Bedouin; C, Nubian; D, lion; E, gorilla; F, ostrich; G, rhinoceros; H, tsetse fly; I, oil palm, J, baobab, K, euphorbia.

II. AUSTRALIAN: A, Australian (Queensland); B, Maori; C, Philippine; D, kangaroo; E, lyre bird; F, emu, G, duckbill; H, cockatoo; I, wombat; J, eucalyptus; K, tree fern; L, bread fruit tree; M a, fruit of bread fruit tree.

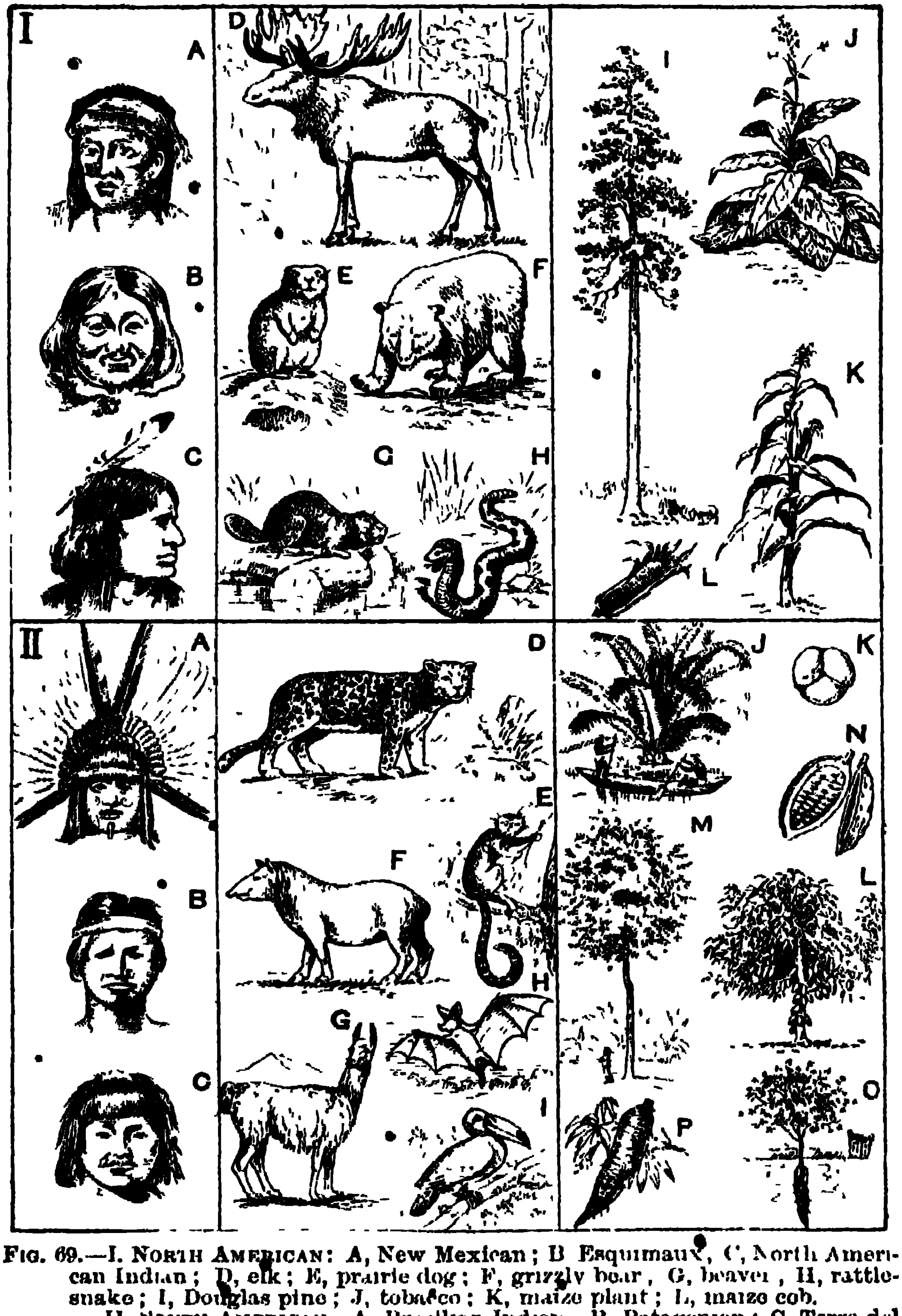

FIG. 69.—I. NORTH AMERICAN: A, New Mexican; B Esquimaux, C, North American Indian; D, elk; E, prairie dog; F, grizzly bear, G, beaver, H, rattlesnake; I, Douglas pine; J, tobacco; K, maize plant; L, maize cob.

II SOUTH AMERICAN A, Brazilian Indian, B, Patagonian; C, Terra del Fuegian; D, jaguar; E, marmoset; F, tapir; G, llama; H, vampire; I, toucan; J, ivory palm; K, fruit of ivory palm; L, cacao tree; N, cacao fruit; M, india-rubber; O, manioc plant. P, manioc tuber (from which the tapioca is obtained).

### QUESTIONS.

1. Name the most striking features of the general arrangement of land and water on the surface of the Earth. Why are the British Isles so much more favourably situated for purposes of trade than New Zealand?

2. "A continent is a mass of land practically separate and easily distinguishable from the other land masses of the Earth." According to this definition how many continents are there? Name them. What are the most marked differences between the Old World and the New World as regards shape and arrangement of the land?

3. Compare the Atlantic Ocean with the Pacific, and the Arctic with the Antarctic Ocean. Name the most striking features of the Indian Ocean.

4. Make a list of the six seas which are most completely cut off from the ocean. What 'seas' are really bays or gulfs? (Consult the atlas.)

5. Why is the Gulf of Tartary on the east coast of Asia incorrectly so called? What is it really? What would you call the Skager Rak and the Kattegat in Northern Europe?

6. Name the different kinds of islands. Make a list of single isolated islands. How are such islands generally formed? What is a lagoon? Where do archipelagoes most abound?

7. Compare the continents in regard to regularity of coast line. What is a promontory?

8. Why may we not define a peninsula as "land almost surrounded by water"? Illustrate your answer by examples from the atlas.

9. Explain clearly what is meant by relief. Could you say that the top of a table had any relief? If not, why not? What is meant by a *section*? What would a section across Holland, which is mostly below sea-level, be like?

10. Distinguish plateaux and plains.

11. What resemblance is there between isolated mountains and isolated islands? What is a mountain system? What are passes?

12. What is a watershed? What is a divide? How would you draw on a map the line of divide between two river systems?

13. What is a river? What is meant by the basin of a river? On which bank of the Hugli does Calcutta stand? Look at the map of South America and say which you think to be the real head stream of the Amazon.

14. What is meant by inland drainage? Give examples.

15. Under what circumstances is the water of a lake usually fresh? Why is this?

16. Give examples of animals specially fitted by nature for the places they inhabit. Where are the great forest belts of the earth's surface?

17. Explain how it is that certain plants and animals are indigenous in certain parts of the world. Which animal and which plant do you consider most strikingly characteristic of each of the six regions of plant and animal life?

## The Earth and Man.

**77. Population of the Earth.** The world is inhabited by about 1500 millions of human beings.

This population is not evenly distributed over the land surface of the globe. People crowd together where the necessaries of life are easily obtained, either from nature herself or through the resources of civilization. Thus the fertile plains of India and China support an enormous population, while the frozen wastes of Siberia are almost uninhabited. Also where civilization enables mineral resources to be fully utilized in manufacturing industries, as in some parts of Europe and the United States of America, population is very dense, and the tendency is for people to crowd together in the large manufacturing and trading towns.

**Density of population** is measured by the average number of people inhabiting one square mile of area. Thus the population of the English manufacturing county of Lancaster, about 4½ millions, divided by its area, about 1887 square miles, gives a population density of 2384 to the square mile. But most of this population is crowded into the towns. The district of Saran, in Bengal, has a population of 930 people to the square mile, but this population is almost entirely rural. There are no large towns.

The estimated population of the continents is as follows:

| | | | | | |
|---|---|---|---|---|---|
| | 750 | millions, or | 47 | to the square | mile. |
| Europe, | 350 | ,, | 101 | ,, | ,, |
| Africa, | 200 | ,, | 13 | ,, | ,, |
| America, | 110 | ,, | 7 | ,, | ,, |
| Australasia, | 52 | ,, | 12 | ,, | ,, |

China, with 292 persons to the square mile, is the most densely populated country of Asia. The most densely populated country of Europe is Belgium, with 579 persons to the square mile. In the United States of America the northern states bordering on the Atlantic have 107 persons to the square mile. These numbers are very much above the average for their respective continents.

The twenty largest cities in the world are :

| Name. | Population. | Situation |
|---|---|---|
| London | 6,700,000 | England |
| Paris | 2,714,000 | France |
| Canton | 2,500,000 | China |
| Berlin | 1,677,000 | Prussia |
| New York | 3,400,000 | U.S. of America |
| Vienna | 1,365,000 | Austria |
| Tokio | 1,300,000 | Japan |
| St. Petersburg | 1,267,000 | Russia |
| Chicago | 1,700,000 | U.S. of America |
| Philadelphia | 1,300,000 | U.S. of America |
| Peking | 1,000,000 | China |
| Moscow | 989,000 | Russia |
| Tient-sin | 950,000 | China |
| Constantinople | 874,000 | Turkey |
| Calcutta | 862,000 | India |
| Bombay | 822,000 | India |
| Brooklyn | 806,000 | U.S. of America |
| Hankau | 800,000 | China |
| Buenos Ayres | 753,000 | Argentina |
| Glasgow | 735,000 | Scotland |

78. **Races of Mankind.** Three principal races can be distinguished, besides various secondary races.

(1) **The Caucasian Race.** The characteristics of this race, which numbers about 750 millions, are an oval face, regular features, straight eyes, and abundant hair. It comprises the Indo-European or Aryan peoples, who form the greater part of the inhabitants of India, Persia, Europe, and North America; the Semitic peoples ; Jews, Arabs, and Syrians; the Egyptians and other natives of Northern Africa.

(2) **The Mongolian or Yellow Race.** This race numbers about 800 million people. Its characteristics are a yellowish complexion, a broad face, with prominent cheek bones, straight coarse hair, narrow slanting eyes, and scanty hair on the face. It includes the inhabitants of China, Japan, Korea, Indo-China, Turkestan, Mongolia, and the lands bordering on the Arctic Ocean.

(3) **The Negro Race.** The characteristics of this race, which numbers about 170 millions of human beings, are crisp or woolly hair, a flat, broad nose, coarse and projecting lips. It includes most of the inhabitants of Africa between the Sahara and the Cape. The native inhabitants of the Andaman Islands are of the same type of mankind

**Secondary Races.** The natives of Australia and New Guinea are the negroes of Australasia. The **Malays** are a branch of the yellow race of mankind The natives of Polynesia are another secondary race akin to the white or Caucasian race The aborigines of America—**the red men**—(about 20 millions) are another secondary race, which, in North America, is rapidly dying out.

79. **Religion.** Most men, even the lowest savages, have some sort of religion. Among uncivilised races it is usually one of fear. Natural objects, such as stones, trees, human and animal remains, are believed to be inhabited by spirits, and the object of worshippers is to propitiate these spirits, and prevent them from doing harm. This form of religion is called **Animism** (Lat. *animus*, a spirit). It is the only religion of about 120 millions of the world's inhabitants, chiefly in Central Africa, Northern Asia, and in parts of America. The wild tribes of Central India and Burma are Animists.

The **fetishism** of the negroes is a form of animism. Some natural or artificial object is supposed to be inhabited by a spirit and is called a **Fetish.** The fortunate possessor of a fetish believes himself to be the master of the spirit inhabiting it.

The higher forms of religion are the various beliefs of civilised mankind regarding the relation of man to God. As a rule they not only prescribe forms and ceremonies of worship but also set up a standard of morality.

The great religions of the world are (1) **Brahmanism** or **Hinduism,** professed by 200 millions of people in India. (2) **Buddhism** (including **Confucianism**), professed by 400 millions of people in Asia, chiefly in China, Japan, and Indo-China. (3) **Muhammadanism,** professed by 180 millions of people in Central, Western, and Southern Asia, and in Turkey in Europe by the Turks. (4) **Judaism,** professed by about 7 millions of Jews, scattered all over the world. (5) **Christianity,** professed by nearly 500 millions of people, chiefly in Europe and America.

80 **Man in Society.** Mankind is subdivided into numerous groups, distinguished from one another by differences of language, religion, manners, and customs, as well as by differences of race. But the most important division of the human family is the division into groups according to **nationality.** **A nation** is a group of human beings mainly descended from the same stock, speaking the same language, and belonging to the same country, who feel that they are bound together into a living whole by common ties of kindred and interest

Thus the English nation is composed of the descendants of the various invaders who came from the shores of the German Ocean and settled in England between 449 and 577 A D. The English language is derived from the language of the same invaders.

Geography greatly influences the feeling of nationality. Most people love the land they live in, whether it be rugged and mountainous like Switzerland, or flat like Bengal. Moreover, the geographical features of a country often cause its inhabitants to have a certain type of character, and thus the feeling of kinship among them is increased. And when a country is cut off from other countries by its geography, its people feel still more strongly that they are one folk, distinct from the rest of the world. They are thrown back upon themselves, and acquire a strong individuality.

A **State** is a body of people under one government. The subjects of a state may be a single nation like France, or may belong to several nations like the people of Austria-Hungary, or may be a collection of different races and creeds without national unity, like the subjects of the Indian Empire.

The **Government** of a state is the authority by which the laws are made and enforced. It also regulates the conduct of the state with regard to other states.

**Kinds of Government.** When a state is governed by one man whose office is hereditary, and whose acts are under no legal control, the government is a **despotic or Absolute Monarchy** like that of Russia or Afghanistan. It resembles the **patriarchal** form of government of the Arab tribes, but in the latter case the ruler, or **sheik**, does not inherit his office.

A **constitutional** form of government is one in which the powers of the head of the state are limited and controlled. In the United Kingdom this is done by Parliament. Without its consent new laws cannot be made, and taxation can only be imposed by the House of Commons.

A **Limited Monarchy** is a constitutional form of government in which the office is hereditary, as in the case of the United Kingdom.

A **Republic** is a constitutional form of government in which the ruler (generally called a President) is elected by the people for a term of years. The Governments of France and of the United States of America are republics, the latter being a federal republic.

A **Federal Républic** is one made up of a number of states, each of which has local self-government, while all are subject to the central or federal government in regard to matters which affect the general welfare of the confederation. The **Goverment of India** resembles in many respects a federal republic, but it is subject to the control of the British Parliament.

81. **Commerce.** Commerce is the interchange of goods.

If the people of one country wish for the products of another country, either because they cannot produce them themselves, or because they cannot produce them of good quality or cheaply, and if they can produce things that are wanted by the people of the other country, then the circumstances are favourable for commerce between the two countries. In short, commerce is barter on a large scale.

Those products of a country which are sought after by other countries are called commercial **commodities** (Latin, *commodus*; suitable, convenient).

The ships which sail up the Hugli to Calcutta bring cotton goods, iron-ware, and other things which can be made better and more cheaply in England than in India. On the return voyage they are laden with rice, tea, jute, oil seeds, and other Indian produce which is wanted in England.

It follows that if a country produces little that is wanted by other countries it cannot get much from them by exchange. Such a country will be a poor country with little trade. The wealth of a country, therefore, depends mainly upon its **material resources,** that is, upon its natural power of producing what is of value to other countries.

It may be that a country which has great natural resources is unable to make full use of them, owing to difficulties of transport, as in the case of Siberia, or want of proper knowledge and enterprise, as in the case of China. In some cases, again, the resources of a country are undeveloped owing to lack of population, as in Canada and Australia.

The material resources of some countries, such as India, lie chiefly in their power of producing the raw material for the manufactures carried on in other countries. The material resources of Great Britain, on the other hand, lie chiefly in the possession of the stores of coal and iron which have made her a great manufacturing country. She manufactures, from imported raw cotton, cotton goods which are cheaper and of better quality than those that can be manufactured where cotton grows.

82. **Imports** are the commodities brought into a country. They are paid for, wholly or in part, by **exports,** which are the commodities sent to other countries.

The following table gives the chief commodities of commerce, and the countries which export them in largest quantities. It must be remembered that a country may be a large producer of a certain commodity, but keep it for home consumption, and therefore export little or none of it. Russia, for example, is the second largest producer of gold in the world, but does not export it.

The countries in the table are mentioned in order of quantity exported.

## I. MINERALS.

| Name of Commodity | Names of Countries arranged in order of quantity exported. |
|---|---|
| Gold, | South Africa, Australasia, United States of America. |
| Silver, | United States, Peru and Chile, Australia. |
| Iron, | United Kingdom, United States, Germany, France. |
| Copper, | United States, Spain, Chile, Japan, Germany, Australia. |
| Tin, | Malay Peninsula, United Kingdom, Australia. |
| Lead, | United States, Spain, Germany, United Kingdom. |
| Zinc, | Germany, Belgium, United States. |
| Sulphur, | Italy. |
| Graphite or Plumbago, | Ceylon. |
| Coal, | United Kingdom, United States, Germany, France, Austria, Belgium, India. |
| Petroleum, | United States, Russia |

## II. VEGETABLE COMMODITIES.

| Name of Commodity | Names of Countries arranged in order of quantity exported |
|---|---|
| Wheat, | United States, Russia, India, Austria-Hungary. |
| Rice, | India, Burma. |
| Maize, | United States, Russia, Austria-Hungary, Rumania. |
| Oats, | Russia, United States, Sweden. |
| Sugar, | Germany, Dutch East Indies, West Indies, Brazil. |
| Tea, | India, China, Japan. |
| Tobacco, | United States, Philippine Islands, Japan. |
| Coffee, | Brazil, Java. |
| RawCotton, | United States, India, Egypt, Brazil |
| Cotton Goods, | United Kingdom, United States, Germany, France. |
| Jute, | Bengal. |
| Timber, | Russia, Sweden, Norway, Canada, Burma. |
| Oils and Oil Seeds, | India, West Africa. |
| Wines, | France, Spain, Italy, Germany, Austria-Hungary, Australia, California |

## III. ANIMAL COMMODITIES.

| Name of Commodity | Names of Countries arranged in order of quantity exported. |
|---|---|
| Meat, | United States, New Zealand, Australia. |
| Wool, | Australia, Argentina, Uruguay, South Africa. |
| Hides, | India, Australia, United States, Argentina, Uruguay. |
| Silk, | China, Japan, Italy, India. |

The **industries** of a country consist in the production, preparation, or manufacture of commodities, whether for home consumption or for export. The trade of a country comprises its commercial dealings with foreign countries **(Foreign Trade)**, and the dealings of its inhabitants among themselves **(Internal Trade)**.

83. **Communications**. Communications are the means of conveying from one place to another, by land or water, persons, goods, or news The term, therefore, includes all facilities for travel, transport of merchandise, conveyance of letters, by road, railway, canal, river, or sea. It also includes communication by telegraph.

The enormous increase of trade during the nineteenth century is due to the improvement of communications. Trade is naturally carried on most easily between places that are near together, and places are practically brought nearer by shortening the time taken to get from one to the other.

Thus, New York, which can now be reached from Liverpool in five days, is practically nearer Liverpool than many parts of England were a little more than a hundred years ago. Calcutta, which is now reached by steamers from England in a month is, for purposes of trade, three times as near England as when the voyage in a sailing vessel round the Cape took three months. Allahabad is now one day distant from Calcutta by rail. Before the railway existed goods were a fortnight or more in getting from one place to the other by road or river.

The result of thus bringing different countries, and parts of the same country, nearer together is that the cost of carriage is reduced, and things become cheaper. The price of commodities being diminished there is a greater demand for them. They are accordingly produced in larger quantities, and industries and trade are developed.

FIG. 70.—Crossing the Steppes in winter. Wolves in pursuit.

In the early part of the nineteenth century tea was a luxury for the rich. Steam navigation and railways have so reduced the price that it is now drunk by all classes in England. The tea industry and trade in tea have developed in proportion to the demand for the commodity.

84. The great improvements in communications during the nineteenth century are mainly due to **steam navigation** and **railways.**

Steamers perform their voyages more regularly, more quickly, and carry more than sailing vessels. There is now scarcely a part of the world that is not regularly visited by steamers for trade purposes. Moreover, sea routes have been shortened by cutting ship canals. The Suez Canal saves 5000 miles in the voyage from England to

India. A ship canal cuts the Isthmus of Corinth; another connects the River Elbe with the Baltic Sea; and another enables ocean steamers to discharge their cargoes in Manchester. The Panama Canal, if completed, or the proposed Nicaraguan Canal, would shorten the voyage from New York to San Francisco by 8000 miles, and avoid the dangerous journey round Cape Horn? It would also make New Zealand nearly 2000 miles nearer England.

FIG 71 – An Ocean steamer

By far the largest proportion of the carrying trade of the world is in English hands, that is, commodities are carried between the different countries of the world chiefly in English ships, and this is one of the great sources of England's wealth.

85. **Railways.** Railways have done for inland communications what steam navigation has done for ocean communications. Since 1825, when locomotive engines were first used on the Stockton and Darlington Railway, the chief countries of the civilized world have been covered by a network of railways,

which carry commodities from the places where they are produced to the great commercial centres, and enable them to be rapidly re-distributed.

If we look at a railway map of England we shall see that the railway lines converge on London, and in a less degree on the other great centres of commerce, such as Liverpool, Manchester, Birmingham. In a map of France they will be seen to converge on Paris.

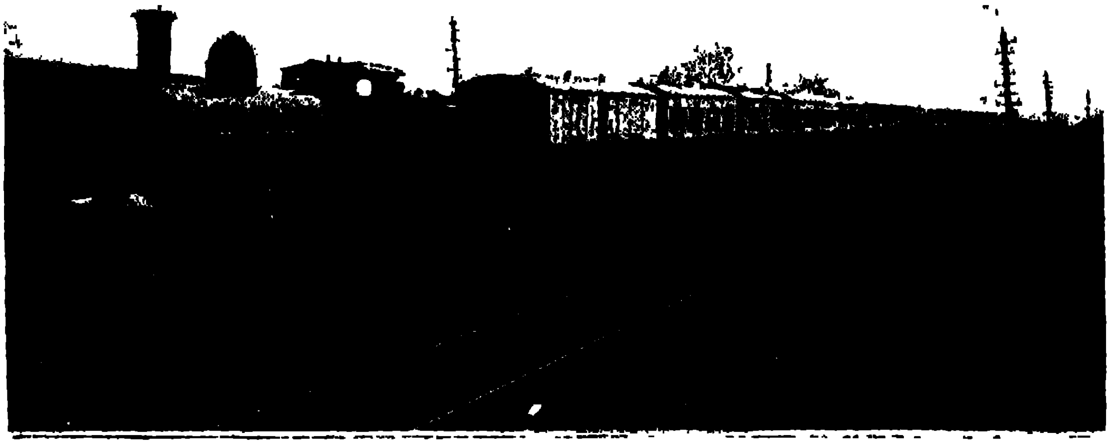

FIG. 72.—An express train in England

In larger countries they converge on several centres where produce is conveniently collected from different parts of the country, and these centres are connected by trunk lines to facilitate interchange of commodities. In India, for example, trunk lines[1] connect Bombay, Calcutta, Madras, and Lahore; in America, New York, Chicago, and San Francisco, as well as other commercial centres, are so connected. Moreover, another use of such trunk lines is to connect sea to sea, and thus provide quick through routes from one part of the world to another. Madras and Calcutta on the Bay of Bengal are both connected with Bombay on the Arabian Sea. Three trunk lines cross the United States of America and connect the Atlantic with the Pacific. Another trunk line crosses Canada and connects the eastern coast with Vancouver on the Pacific. The result is that the quickest route from England to Hongkong is now across America and the Pacific Ocean. In South America lines from Buenos Ayres on the Atlantic and from Valparaiso on the Pacific have approached within fifty miles of each other in the Andes, and in a few years Europe will be directly connected with the Pacific Ocean by means of the great Trans-Siberian Railway.

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[1] Trunk lines are those connecting the principal centres of trade and population. Branch lines connect minor trade centres with the trunk lines. The relation between the trunk of a tree and its branches suggested this use of the words The main high road of Northern India is called "The Grand Trunk Road" for a similar reason.

The construction of railways is often the only possible way of enabling a country to make full use of its natural resources.

The great wheat-growing districts of Canada would have remained untilled had not the Canadian Pacific Railway provided the means of conveying the grain to the coast for shipment to Europe. In like manner the Bengal-Nagpur Railway has given a great impulse to the wheat-growing districts of the Central Provinces of India.

The United States of America has more miles of railway than the whole of Europe. Of other countries the order, according to amount of mileage, is Germany, Russia, France, the United Kingdom, India, Austria-Hungary, Canada. But, in proportion to size, Belgium has the most complete railway system, and England comes next.

86. **Telegraphs.** Much of the business of the world is now carried on by telegraph, and the use of electricity has been further extended by the telephone, which enables business to be transacted by word of mouth over considerable distances

Most countries have more telegraph line than railway line. Even China, which has very little railway at present, has a fairly complete system of telegraphs.

Europe is connected with America by several submarine cables. The Indian Ocean is crossed by a line connecting Europe with India, China, and Australia. There are also cables connecting Europe with the east and west coasts of Africa. The Pacific Ocean has not yet been crossed by a cable, but it is now proposed to lay one.

### QUESTIONS.

1. Find the population density of the earth, taking its land area as 52 million square miles.

2. Why do people collect together in towns? Which of the continents has the greatest number of large towns? Why?

3. Compare the three principal races of mankind in respect of hair and eyes. What race are the aborigines of Australia and New Guinea most like?

4. What is a fetish? Arrange the chief religions of the world in order of number of followers.

5. What is a nation? Mention cases in which the geography of a country has helped to develop a strong feeling of nationality.

6. Describe the chief forms of government.

7. What is meant by the material resources of a country? How do they affect its welfare? What are commercial commodities? What is meant by the manufacturing industries of a country?

8. What are the *natural* communications of a country? How have these been added to during the present century? What has been the effect upon trade? What advantages have steamers over sailing

9. Upon what general plan should the railways of a country be made? How do railways help in the development of new country? Give examples.

10. What would be the advantages of an English telegraph cable across the Pacific Ocean? What route would you suggest for it?

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# ASIA.

## I. Introductory.

The continent of **Asia** is the eastern and larger portion of the mass of land known as the Old World, that is, the part of the world that was known before the discovery of America. Europe and Asia together really form one continent, sometimes called **Eurasia.**

In many ways Asia is the continent of extremes. It is the largest continent. It has the highest mountains and biggest tablelands. It has the greatest extremes of heat and cold. It contains the most densely populated parts of the earth's surface, and the greatest variety of languages, of animals, and of plants.

Asia has produced the four great religions of the world: **Hinduism, Buddhism, Christianity,** and **Muhammadanism.**

The rest of the world also owes to Asia its domestic animals, and most of its cultivated food-plants.

## II. Geographical Situation.

The northern coast-line of Asia lies almost entirely within the Arctic circle, and the greater part of it within twenty degrees of the North Pole. It runs from a point east of long. 60° E. to about long. 170° W, that is, it forms nearly one-third of a circle round the North Pole.

Asia broadens out greatly towards the west, so that its westernmost point in Asia Minor is only about long. 26° E. A line running due north from this point would pass near the North Cape in Norway.

The greater portion of the southern coastline of Asia lies within the Tropics, and the most southern point of the mainland, near Singapore, is within two degrees of the Equator.

Asia, then, occupies the central portion of the eastern half of the northern hemisphere.

At Bering Strait Asia is within forty miles of North America. At the Malacca Strait it approaches within sixty miles of Sumatra, an island belonging to Australasia. It is artificially cut off from Africa by the Suez Canal.

The northernmost point is **Cape Chelyuskin**, lat. 77° 37′ N.

The easternmost point is **East Cape** on the Bering Strait, long. 169° 44′ W. (190° 16′ E)

The southernmost point is **Cape Buru** in the Malay Peninsula, lat. 1° 16′ N.

The westernmost point is **Cape Baba** in Asia Minor, long. 26° 5′ E.

## III. Size and Shape.

The greatest length of Asia, from East Cape on Bering Strait to the Suez Canal, is about 6700 miles.

The greatest breadth, from Cape Chelyuskin, in the Taimyr Peninsula, to Cape Buru, the southern extremity of the Malay Peninsula, is about 5300 miles.

The area of Asia is about 16 million square miles.

Asia is more than four times as large as Europe; it is somewhat larger than Europe and Africa taken together, and about the same size as the two Americas.

In shape it may be considered roughly quadrilateral. It is compact, and its coastline is, in proportion to its size, fairly regular. Hence it has less coastline for each square mile of area than any continent except Africa.

The islands of the Malay Archipelago are included in Australasia. Judging by their typical animals, the islands west of Lombok and Celebes belong to Asia, but it is convenient to treat all these islands together as part of the great island continent. The true dividing line between Asia and Australasia is called **Wallace's Line**, after the distinguished naturalist who first pointed it out.

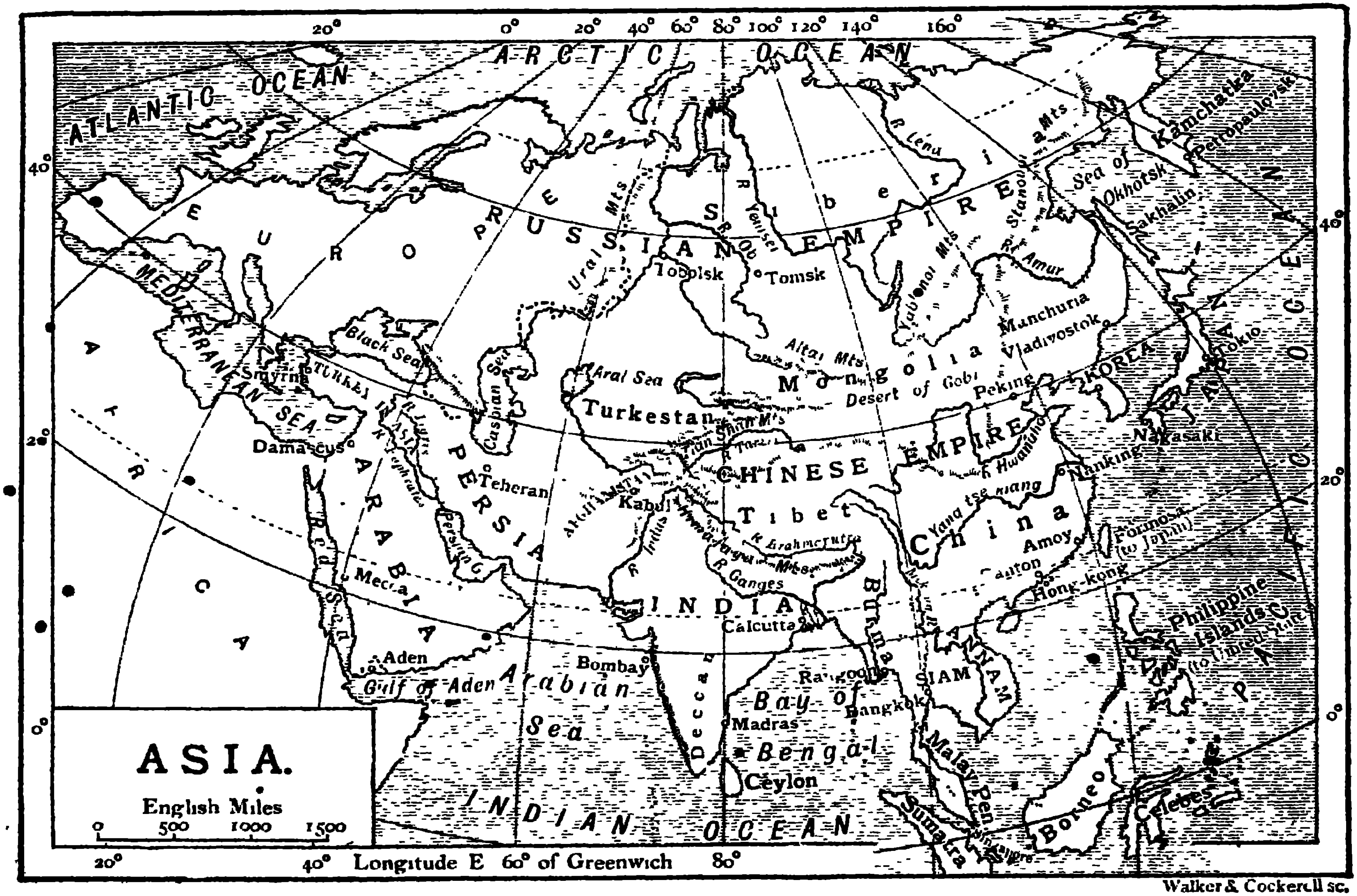
## IV. Boundaries.

On the North: the Arctic Ocean.

On the East: the Pacific Ocean.

On the South: the Indian Ocean.

On the West: the Red Sea, the Suez Canal, the Mediterranean Sea, the Sea of Marmora, the Black Sea, the Kuma-Manych depression, the Caspian Sea. North of the Caspian the boundary between European and Asiatic Russia is an irregular line, which follows the northern portion of the Ural Mountains, and ends at the Kara Sea on the Arctic Ocean.



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## V. Coasts.

*North Coast.* This is low-lying, barren, and almost uninhabited.

It is ice-bound for more than nine months in the year, and was completely explored for the first time by the Swedish navigator Nordenskjold in 1878-79 He made the north-east passage from Europe to America, and found the northernmost point of the mainland, Cape Chelyuskin, at the end of the Taimyr Peninsula, west of which the coast is indented by the great estuaries of the **Ob** and **Yenisei.**

The **Liakhov Islands,** or **New Siberia,** lie off this coast, east of the Taimyr Peninsula.

**East Cape,** on **Bering Strait,** which separates Asia from America by a strait 36 miles broad, marks the end of the northern coast.

*East Coast.* This is marked by a number of openings, which are cut off from the Pacific Ocean by chains of islands, and form almost land-locked seas.

In the north, the **Aleutian Islands** cut off the **Bering Sea,** off which opens the **Gulf of Anadyr.**

The great peninsula of **Kamchatka,** ending in **Cape Lopatka,** separates the Bering Sea from the foggy and desolate **Sea of Okhotsk.**

The long, narrow **Sakhalin Island** forms part of the western border of this sea, and the barren **Kurile Islands** cut it off from the Pacific Ocean.

**La Perouse Strait** separates Sakhalin from **Yezo,** the northernmost island of the Japan group, and connects the **Sea of Japan** with the Sea of Okhotsk.

The Japan Sea ends at the south of the **Korea Peninsula,** and communicates by the **Korea Strait** with the **East China Sea.**

North of the East China Sea, which is cut off from the Pacific by the **Luchu Islands,** long a subject of dispute between China and Japan, are the **Yellow Sea** and the **Gulf of Pe-chi-li.**

The large and important island of **Formosa** marks the southern end of the East China Sea.

The **China Sea** extends from Formosa to **Cape Romania,** the extreme south-east point of the **Malay Peninsula.** It is cut off from the Pacific by the large group of the **Philippine Islands,** and from the Indian Ocean by the Malay Peninsula, and the islands of the **Malay Archipelago.** The **Straits of Malacca** connect it with the Indian Ocean. It has two important gulfs: the **Gulf of Siam** and the **Gulf of Tongking**; and the portion of Indo-China lying between them terminates in **Cape Cambodia.** The large island of **Hainan** lies east of the Tongking Gulf.

The Chinese coast is high, rocky, broken up by small bays, and bordered by small islands, of which the best known is **Hong-Kong**.

*South Coast.* This is occupied by three great peninsulas: **Indo-China, India Proper,** and **Arabia.**

The **Bay of Bengal**, in which are the **Andaman** and the **Nicobar** groups of islands, extends from the Malacca Strait to **Cape Comorin**, the most southerly point of India.

The large island of **Ceylon** lies off the south-east end of **India**, separated from it by the **Palk Strait**.

The northern portion of the Indian Ocean between Arabia and India is called the **Arabian Sea**. Out of this opens in the north-west the **Gulf of Oman**, connected with the **Persian Gulf**, still further to the north-west, by the **Strait of Ormuz**.

**Ras-el-Hadd**, south of the Gulf of Oman, is the easternmost point of Arabia.

Off the south-west coast of India are the **Laccadive Islands**, and some distance south of them are the **Maldive Islands**.

The **Gulf of Aden**, running west out of the Indian Ocean between Arabia and Africa, is connected with the southern end of the Red Sea by the Strait of **Bab-el-Mandeb**, in which is the British island of **Perim**.

The **Red Sea**, long and narrow, runs nearly north west between Arabia and Africa for 1100 miles. It ends in two narrow gulfs, **Akaba** and **Suez** From the head of the latter gulf the **Suez Canal** leads to the **Mediterranean Sea**.

*West Coast.* This is washed by three inland seas: the **Mediterranean,** the **Black Sea,** and the **Caspian Sea.**

The eastern end of the **Mediterranean** washes the coast of **Syria**, and has the large island of **Cyprus** in its north-eastern corner.

North of Syria the peninsula of **Asia Minor** runs west, terminating in Cape Baba, and having the Mediterranean on the south, the **Aegean Sea**, the **Dardanelles Strait**, the **Sea of Marmora**, and the **Bosphorus** on the west, and the **Black Sea** on the north.

The **Aegean Sea** is studded with the islands of the Grecian Archipelago.

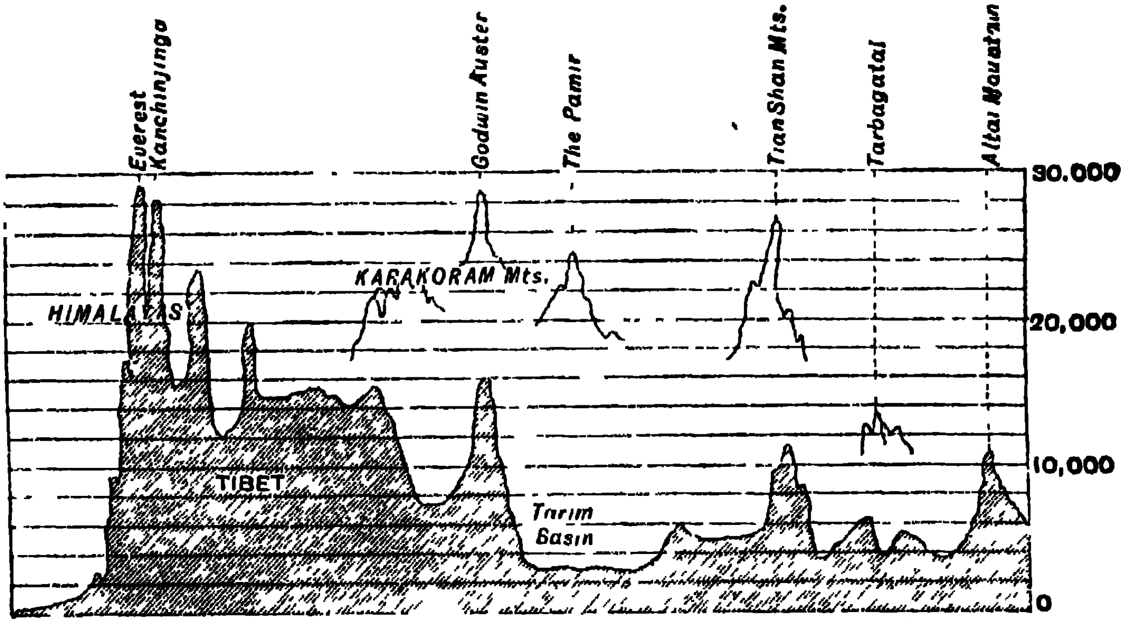
The **Caspian Sea** has Persia on the south, Russian Turkestan on the east, and Caucasia on the west.

## VI. Land Elevation or Relief.

The physical map of Asia shows the most striking surface-features of the continent to be its extensive and lofty plateaux, flanked by enormous mountain ranges, and its vast low-lying plains.

PLATEAUX—

The great **Pamir Plateau** ("The Roof of the World") is the centre from which the main systems of mountains and plateaux radiate. It averages 12,000 feet in height, and is hemmed in by the giant peaks of the Hindu Kush, the Karakoram, the Kashgar, and the Trans-Alai Mountains.



Section through the Central Highlands of Asia from North to South.

To the south-east it expands into the **Plateau of Tibet**, the highest plateau in the world, which has an average height of 13,000 feet, and rises in many parts to 16,000 feet.

West of the Pamir the **Plateau of Iran** occupies the greater part of Persia; it is connected by the highlands of Kurdistan and Armenia with the plateaux of Asia Minor and Arabia.

From the Pamir high tablelands extend north-east across Mongolia and Siberia to the shores of the Pacific.

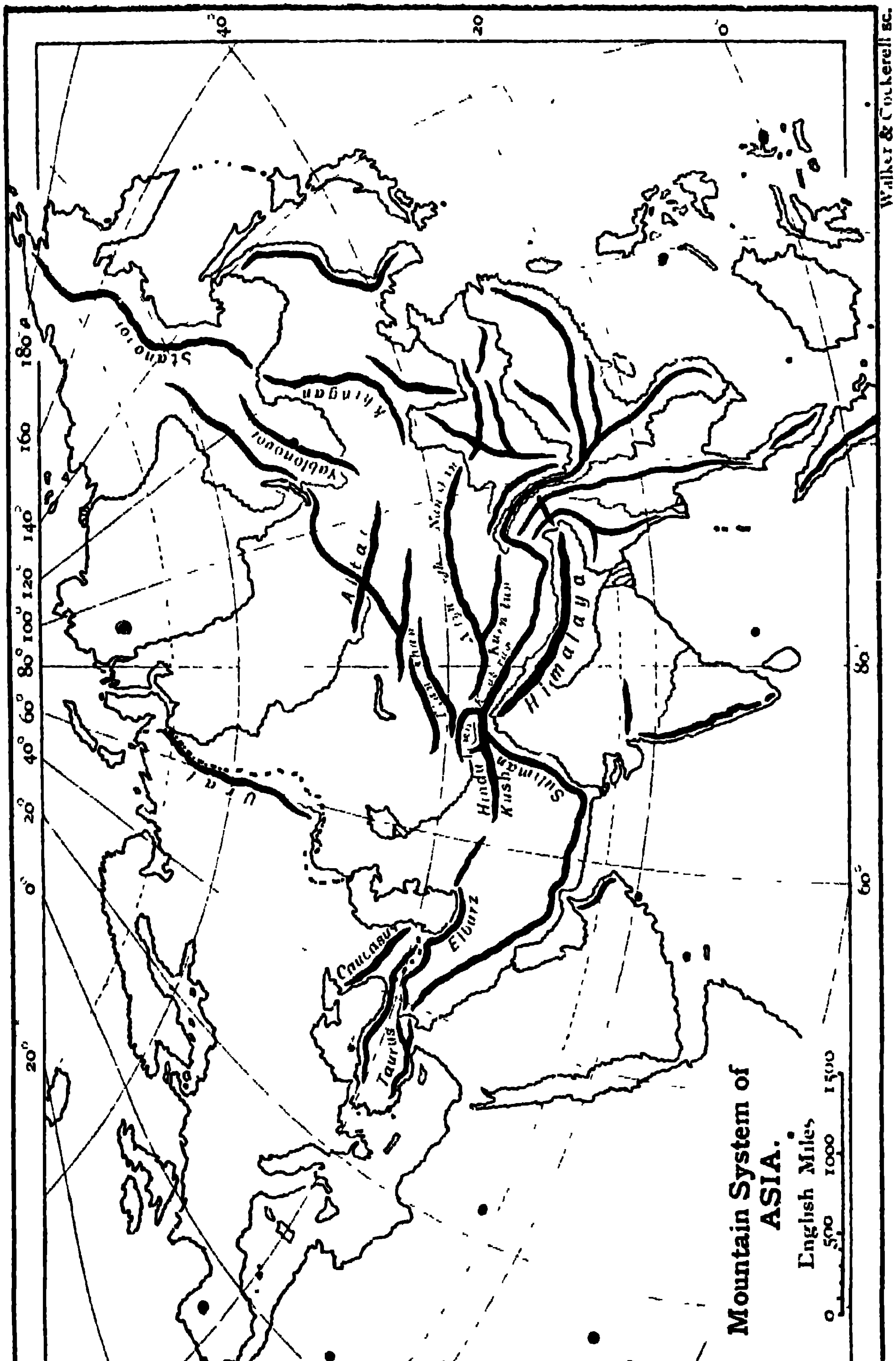
Between these and Tibet lie Chinese Turkestan and the Desert of Gobi, not more than 4000 feet in elevation.

**Peninsular India**, that is, India south of the Indus-Ganges plain, is a plateau, with a margin of low-lying land which fringes the coast, and forms the lower basins of the rivers.

MOUNTAINS—

The great ranges form the edges of the plateaux.

The **Himalaya** mountains run along the south-western edge of the Tibetan plateau, and then sweep round to the east, form-



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ing a range 1500 miles long extending from the Indus to the Brahmaputra.

The Himalaya contain the highest peaks in the world. Mount **Everest** just exceeds 29,000 feet.

North of the Indus the **Hindu Kush** range runs west through Afghanistan from the southern edge of the Pamir Plateau.

The **Karakoram** range, also north of the Indus, runs south-east from the Pamirs.

The **Kuen-lun** range, with peaks of over 20,000 feet, runs east from the Pamirs, and forms part of the northern edge of the Plateau of Tibet.

The **Altyn-tagh** (14,000 feet) branches off north-east from the Kuenlun range, and, with the **Nan shan** Mountains further east, continues the northern edge of the Tibetan Plateau.

The **Inshan** Mountains to the north-east of China form the south-eastern boundary of the Gobi Desert, while the **Great Khingan** Mountains bound it on the east.

The north-eastern and south-eastern edges of the Tibetan plateau break up into ranges which extend through China and Indo-China.

The **Tian-shan** range starts from the north-east of the Pamir plateau, and runs north-east for 1500 miles, enclosing between it and the Kuen-lun range the comparatively low-lying country of Chinese Turkestan. It has heights of over 25,000 feet.

North-east of the Tian-shan range are
the **Altai** Mountains;
the **Sayan** Mountains;
the **Yablonovoi** Mountains;
the **Stanovoi** Mountains, which extend to Bering Strait.

The **Suliman** range, on the west of the Indus river, rising to upwards of 12,000 feet, forms the eastern edge of the Iran plateau.

The **Elburz** Mountains, circling round the southern end of the Caspian and rising to about 19,000 feet, are connected by continuous high land with the Hindu Kush, and form part of the northern edge of the Iran plateau.

Further north-west are the **Mountains of Armenia**, with **Mount Ararat**, 16,925 feet. In Asia Minor the **Taurus Range**, rising to near 12,000 feet, runs along the coast of the Mediterranean.

The **Caucasus** Mountains run north-west from the Caspian to the Black Sea, and rise in **Mount Elbruz** to 18,500 feet.

The **Ural Mountains** are a range of insignificant height forming part of the boundary between Europe and Asia.

VOLCANOES—

There are active volcanoes in Kamchatka and Japan.

PLAINS—

The **Great Plain of Northern Asia** lies north and west of the plateaux which occupy the greater part of the continent. It stretches with little interruption, from the Caspian Sea to the Yenisei, and along the shores of the Arctic Ocean.

In the immediate neighbourhood of the Caspian the Great Plain is, like that sea itself, below ordinary sea-level, and it is here continuous with the **Steppes** of Russia Proper. But over the greater part of its extent it lies above sea-level, though it never rises above 500 feet.

The southern portion is partly desert, but chiefly grassy **steppe**, affording pasturage for vast herds of sheep and camels.

Further north the Great Plain is covered with forest, but this dies away near the Arctic Circle, and is succeeded by the marshy, moss-grown **tundras** which border the Arctic Ocean, and are frozen for the greater part of the year.

The other plains of Asia are either narrow coast strips, or form the basins of the great rivers

The **Plain of Mesopotamia** extends north-west from the Persian Gulf.

The **Great Plain of India** extends from the Bay of Bengal to the Arabian Sea, lying between the Himalaya and the plateau of the Deccan.

The **Great Plain of China** occupies the lower basins of the rivers Hoang-ho and Yang-tse-Kiang.

DESERTS—

Considerable parts of Asia are mainly sandy wastes and salt marshes incapable of cultivation The largest of these is the **Desert of Gobi** or **Shamo,** occupying most of southern Mongolia. Considerable parts of Arabia and Northern Persia, India between the Indus and the Aravalli Mountains, and the tundras in Siberia, are also desert

## VII. Rivers and Lakes.

RIVERS—

The rivers of Asia may be divided into two classes:

(1) those that flow to the sea, and
(2) those that flow to inland seas or lakes.

The second class is a special feature of the Asian river-system. Africa is the only other continent that has any considerable inland drainage.

Another remarkable feature of the drainage system of this continent is that the great mountain ranges forming the edges of the plateaux are not real water-partings, but are broken through by most of the great rivers, which take their rise within the plateaux.

(1) **Rivers draining to the Arctic Ocean:** the **Ob**, the **Yenisei**, and the **Lena**.

The first two rise within the Mongolian plateau.
The last has its origin on the outer northern slopes.
All three are great rivers, upwards of 3000 miles in length. During the short summer they are, with their eastern and western tributaries, important channels of trade. But for the greater part of the year they are frozen

(2) **Rivers draining to the seas connected with the Pacific Ocean:** the **Amur**, the **Hoang-ho**, the **Yang-tse-Kiang**, the **Mekong.** All these, except the last, have their origin beyond the mountain ranges that form the eastern edges of the great central plateau.

(3) **Rivers flowing to the Indian Ocean:** the **Salwin**, the **Irawadi**, the **Brahmaputra**, and the **Ganges** flow into the Bay of Bengal , the **Indus** flows into the Arabian Sea ; the **Tigris** and the **Euphrates** pour their united streams into the Persian Gulf.

(4) **Rivers flowing inland.** Nearly one-fourth of the whole continent drains inland.

The most important system of inland drainage is that of the Aral Sea, which receives, through the rivers **Oxus** (Amu-Darya) and **Jaxartes** (Sir-Darya), the drainage of the Great Pamir and the western slopes of the Tian-Shan range. Both rivers are about 1200 miles long.

The River **Ural** flows to the Caspian.

LAKES—

Compared with other continents, Asia has few large fresh-water lakes.

The largest is **Lake Baikal** (13,000 square miles) in the highlands of Southern Siberia, which feeds the Yenisei.

The other lakes of importance are all salt or brackish, and are in most cases the shrunken remains of much larger expanses of water.

The **Caspian Sea** and the **Sea of Aral**, for example, were once part of a huge inland sea, and now occupy the lowest depressions of the old sea bed.

The **Caspian** (170,000 square miles) is the largest lake in the world, and is 85 feet below the level of the Black Sea. It is about the size of the province of Madras together with Mysore and Coorg.

The **Sea of Aral** (26,000 square miles) is 245 feet above the Caspian Sea.

**Lake Balkhash** (8000 square miles), near the western slopes of the Tian-Shan, was also once much larger than at present.

Smaller lakes are **Lob-nor** in Chinese Turkestan, which receives through the **Tarim River** the whole of the drainage of the Chinese Turkestan depression, and **Koko-nor,** 10,500 feet above sea-level, on the Tibetan plateau.

**Lake Hamun** in Persia receives, through the **River Helmand,** most of the drainage of Afghanistan.

Lake **Van**, in the highlands between Armenia and Kurdistan, and Lake **Urumiya,** in north-western Persia, are both centres of inland drainage. In Palestine, the intensely salt **Dead Sea,** the lowest lake in the world, receives the drainage of the Jordan valley.

## VIII. Climate.

Every variety of climate is to be found in Asia

Nevertheless, owing to the arrest of moisture-bearing winds from the Southern Ocean by the mountain masses that stretch across the continent from west to east, the climate of the greater part of Asia is marked by **extremes of heat and cold**, and by **great dryness.** This is equally true of the lofty table-land of Tibet and of the low-lying tundras of Siberia. Difference of altitude and difference of latitude do not affect the general character of the climate, but merely determine the intensity of the extremes of heat and cold, and the relative duration of the hot and cold seasons. Thus, in many parts of Northern Siberia, the ground is permanently frozen, and for several months of the year mercury is a solid The hot season lasts only a few weeks, but, while it lasts, the heat is intense. Further south the hot season lasts longer and the cold is less intense, but the climate is still one of extremes.

The more northerly countries away from the influence of the central mountain mass, China Proper and Japan in the east, Asia Minor and parts of Syria and Persia in the west, have a climate which is mainly temperate. Owing to the moderating influence of the **Kuro Sivo,** or "Black Stream," an ocean current in the Pacific corresponding with the Gulf Stream in the Atlantic, the climate of Japan is pleasant and temperate.

The three great peninsulas of the south, Arabia, India, and

Indo-China, have climates which are mainly tropical, varying from the **hot-dry**, which preponderates in Arabia, South Persia, and north-west India, to the **hot-moist**, which preponderates in Indo-China

The Indian Ocean is the region of the **monsoons**, the regular winds which blow landwards during the hot and rainy part of the year, and away from the land for the rest of the year. The **south-west monsoon** brings rain, which falls heavily on the western coast of Peninsular India and over Bengal and Indo-China, and finally exhausts itself on the outer slopes of the Himalaya and on the mountains of Indo-China. Half the rainfall of Asia is spent on India and Indo-China; in parts of Assam it is upwards of 500 inches per annum.

## IX. Plants and Animals.

Corresponding with its wide range of climate, Asia has a great variety of plant and animal life.

Among tropical trees the **teak, bamboo, cocoa-nut** and **date palms, banyan** and **plantain** are specially noteworthy.

**Coffee** is indigenous in Arabia; the **tea plant** in China; the **rose**, the **peach** and other fruit trees in Central Asia.

**Aromatic plants** flourish in Arabia, **spice plants** in Ceylon and Indo-China.

The **elephant, tiger, buffalo** and **bear** are common in India and Indo-China. The **tiger** is found as far north as Manchuria, and the **buffalo** is indigenous in China.

The **horse, ass, ox, sheep**, and **goat**, are natives of Central Asia.

The **yak** and the large wild sheep called the **ovis poli** are characteristic of Tibet.

Both varieties of **camel**, the single-humped and the double-humped, belong to Western Asia.

In Siberia the **sable**, the **ermine**, the **white polar bear**, and the **reindeer** are characteristic.

The **peacock** and the **domestic fowl** are indigenous in India and Indo-China.

Poisonous snakes are common in the tropics; the best known is the **cobra**.

## X. People.

POPULATION—

The population of Asia was estimated in 1890 at **750 millions**, nearly three-fifths of the total population of the globe. Asia has more than twice the population of Europe, but it is less densely populated, that is, it has fewer inhabitants to the square mile. It has **47 inhabitants per square mile**, while Europe has 101.

But no other continent has more than 14 inhabitants to the square mile.

This vast population is very unequally distributed.

The Pamir plateau, the tundras bordering the Arctic circle, the desert of Gobi, and the Turkestan depression are almost uninhabited.

On the other hand the plains of the Ganges, the Yang-tse-Kiang, and the Hoang ho are among the most thickly populated parts of the world.

India and China Proper alone contain about three-fourths of the total population of Asia.

RACES AND LANGUAGES—

The inhabitants of Asia for the most part belong to two stocks: the **white** or **Caucasian** and the **yellow** or **Mongolian.** South-western Asia and India are chiefly occupied by the former; Indo-China, China, Japan, and the rest of the continent north of the central highlands, by the latter.

RELIGIONS—

The chief religions are **Buddhism, Hinduism,** and **Muhammadanism.**

**Buddhism,** an offshoot from Hinduism, is the religion of about 425 millions of people It prevails chiefly in China, Japan, Indo-China, and Ceylon.

**Hinduism** is professed by more than two-thirds of the inhabitants of India (about 208 millions).

**Muhammadanism** is professed by about 120 millions of Asiatics. It is the prevailing religion of south-western Asia.

**Christianity** is spreading gradually in parts of the continent.

Many of the hill tribes, and many of the native inhabitants of Siberia, are **animists,**[1] and there are still a few "**fire-worshippers**" in Persia and India.

## XI. Products.

MINERALS—

Asia has great mineral wealth, and has been famous from time immemorial for precious stones and the more valuable metals, though, hitherto, its stores of some of the more useful minerals have been little utilized.

**Gold and other precious metals** are abundant in the Altai Mountains in Siberia.

**Iron ore** is found in most Asiatic countries, but the metal is extracted only on a small scale.

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[1] See Introduction, p. 100.

**Coal** exists in enormous quantities in China, and is found in Siberia, Persia, Asia Minor, Japan, and India. It is mined on the large scale in India, which is at present the greatest coal-producing country of Asia

**Copper** is extracted in Japan, India, and Siberia.

**Tin** is obtained in large quantities in the Malay Peninsula, which produces about half the world's supply of this metal.

**Petroleum** is very largely produced in Southern Caucasia. It is also found in Indo-China.

**Rock salt** is found in beds in India. Large quantities of salt are obtained by the evaporation of sea water, and, in China, from brine springs.

VEGETABLE PRODUCTS—

**Cereals** are not cultivated above lat. 63° N, but India, China, Indo-China, Japan, and Asia Minor produce large crops of **rice, millet, maize**, and **wheat**. Rice is the staple food-crop in hot moist countries with an ample water supply.

**Sugar-cane** is largely grown in Southern and South-Eastern Asia.

**Spices, gums and resins**, and **drugs** are characteristic products of Southern Asia

**Tobacco** is grown in India, Asia Minor, and Japan.

**Cotton** is grown in India, China, Asia Minor, Caucasia, and Turkestan.

**Jute** is a very important product of north-eastern India.

**Teak wood** is the most valuable product of the forests of India, and Indo-China.

INDUSTRIES AND MANUFACTURES—

**Tea** is one of the most valuable products of India, Ceylon, China, and Japan.

**Opium** is manufactured from the opium poppy in India, Persia, and China

The **Silk-worm** culture is important in China, Japan, Asia Minor, Persia, India, and Turkestan **Silk** is manufactured on the large scale from raw silk in China, Japan, and India.

**Cotton** weaving is a rapidly growing industry in India, Japan, and China, and in India there is a considerable manufacture of **gunny** from raw jute.

**Indigo** is still manufactured in parts of Northern India, but the industry is a declining one.

**Coir** fibre, prepared from the outer husk of the cocoa-nut, is chiefly produced in India and China.

## XII. Means of Communication.

Trade and commerce depend greatly on the facilities for internal and external communication. As roads are improved and rendered safe, trade expands. Commerce with China and Japan has developed enormously since ports in these countries were thrown open to the world.

On the whole, Asia is badly off for means of internal communication The ordinary trade routes of the interior are of the rudest description, and have changed little for centuries.

**India** has many good roads, but there is no through road connecting India with China, or with Central Asia.

**Siberia** has a magnificent system of water communication, extending, by means of the tributaries of its great rivers, from the Urals to the Pacific, but it can only be used in the short summer.

**India** and **China**, too, have great natural waterways, but over large parts of Asia these are entirely wanting.

**India** has the most complete **railway system**, and the railways of **Russian Asia** are being pushed on rapidly. A railway now connects the Caspian with Bokhara and Tashkent, and the great line across Siberia, which is to connect Europe with the Pacific Ocean, is, in parts, completed

**Japan** also has more than 3,000 miles of railway.

**Telegraphic communication** exists between all the principal towns in India, China, and Japan. Europe and Asia are connected by a line which runs from Constantinople to the head of the Persian Gulf, and another line runs from Tiflis in the Caucasus also to the head of the Gulf, where both are connected with a line which passes through Baluchistan to India A line also passes from European Russia right across Siberia to the Pacific, where it joins a submarine cable which runs near the coast of China through the Straits of Malacca and across the Bay of Bengal to Madras. There is also a submarine cable from India to the top of the Red Sea *via* Aden.

## XIII. Trade and Commerce.

FOREIGN TRADE—

The foreign trade of Asia is almost entirely in the hands of Europeans, and is very great. The exports are chiefly raw materials, and the imports manufactured products

IMPORTS—

The chief imports are **cotton, linen,** and **silk** goods, **articles of clothing,** the useful **metals,** and **machinery.**

EXPORTS—

The principal exports are **tea, silk, cotton, dye-stuffs, oil-seeds, coffee, spices, rice, wool, jute, timber,** and **petroleum.**

COMMERCIAL PORTS—

The chief commercial ports are **Smyrna**, in Asia Minor; **Bombay** and **Calcutta**, in India; **Colombo**, in Ceylon; **Singapore**, at the end of the Malay Peninsula; **Hong Kong** and **Shanghai**, in China; and **Yokohama**, in Japan.

INTERNAL TRADE—

The internal trade of Asia, owing to the difficulties of land communication, is comparatively small. **Cotton**, **wool**, **silk**, **furs** and **skins**, **tea**, **fruit**, and **horses** are the principal commodities.

## XIV. Government and Political Subdivisions.

Except in British India, parts of Russian Asia, and of late in Japan, Asia cannot be said to enjoy civilized government.

The countries of Asia may be divided into four political groups:

1. **Southern Asia**: countries under British or French control
2. **Eastern Asia**: the Buddhist States
3. **Northern Asia**: Russian Territory.
4. **Western Asia**: the Muhammadan States

Group 1 comprises the **Indian Empire**, the **Malay Peninsula**, **Siam**, and **French Indo-China**.

Group 2 comprises the **Chinese Empire** and **Japan**.

Group 3 comprises **Siberia**, **Russian Turkestan**, and **Caucasia**.

Group 4 comprises **Turkey in Asia**, **Arabia**, **Persia**, and **Afghanistan**.

### QUESTIONS.

1. In comparing Asia with the other continents what do we find especially noteworthy?

2. Why are Asia and Europe said to form really one continent? What name has been given to it?

3. What are the principal straits on the east of Asia? What seas do they connect?

4. Describe the positions of Sakhalin, Formosa, Hainan, Ceylon, the Maldives, and Perim.

5. Make a list of the plateaux of Asia, and name the mountain ranges bounding them.

6. Which of the rivers of Asia have their origin in the great central highlands? Make a list of the rivers of Asia arranged according to length.

7. What parts of Asia are drained by rivers flowing to inland seas or lakes? Name the rivers and the lakes into which they flow. How does Lake Baikal compare, in regard to size, with the largest lakes of the other continents?

8. What is the special character of the climate over the greater part of Asia? Where do we find a climate most like that of Western Europe? Why?

9. Mention some plants and animals that are indigenous to Asia.

10. How do you account for the dense population of the plains of China Proper, and of the basin of the lower Ganges?

11. Explain clearly what is meant by saying that Asia has a population of 47 inhabitants to the square mile.

12. What parts of Asia are richest in minerals? Where are coal, tin, petroleum, and gold chiefly found?

13. How is Asia situated as regards means of internal communication? What drawbacks are some of the largest rivers subject to considered as highways of trade?

14 How do you explain the fact that Asia chiefly imports manufactured products, and exports raw materials?

15. Give approximately the latitude and longitude of the chief commercial ports of Asia

16. Into what political groups may the countries of Asia be divided? Describe the geographical position of the countries in each group, and name their capitals.

# THE INDIAN EMPIRE.

## I. Introductory.

**India** is marked off so clearly from the rest of Asia by its natural boundaries that it is commonly thought of and spoken of as a single country But this is not true except in the sense that it is under one government Different parts of India differ greatly in physical features, fertility of soil, climate, and products; and, consequently, in the character of their inhabitants.

There are also great differences of race, language, and religion. These are chiefly due to the immigrations into India of various races from very early times. Such immigrants partly displaced the original inhabitants, forcing them into the more distant and inaccessible parts of the country, and partly mingled with them. They, in their turn, were disturbed by the entrance of other immigrants.

Again, India has been frequently invaded by force of arms, and, until quite recent times, a strong government was never established over the whole of the land. The struggle for power, with its attendant evils, misrule, and want of security for life and property, was always going on somewhere.

India, therefore, is rather a collection of countries. As its general civilization improves under a settled form of government, which gives the inhabitants the advantage of peace and quietness, India will, no doubt, tend more and more to become really one country.

## II. Geographical Situation.

India is divided into two almost equal parts by the Tropic of Cancer.

The tropical southern half of India Proper juts out from the mainland of Asia into the Indian Ocean to within eight degrees of the Equator. In the north India reaches the latitude of southern Spain, so that it extends over nearly thirty degrees of latitude. The 80th meridian of east longitude passes a little west of Madras. Hence the earth makes nearly a quarter of a revolution after it is noon in India before it is noon in England Measured directly on the globe India is about one-fifth of the way round the world from England.

The most northerly point is in the Karakoram Mountains in the extreme north of Kashmir

The most easterly point is on the Mekong River in Indo-China.

The most southerly point is Cape Comorin.

The most westerly point is on the western frontier of Baluchistan.

## III. Size and Shape

The territory included within the Indian Empire exceeds 1,800,000 square miles This area is more than fifteen times that of the United Kingdom, and amounts to nearly one-sixth of the total area of the British Empire.

About one million square miles are directly under British rule. The rest consists of Native States and Agencies, and the small possessions of France and Portugal.

The greatest length of India from the north of Kashmir to Cape Comorin is 2,022 miles, and its greatest breadth, from the easternmost point of Burma to the westernmost point of Baluchistan, is 2520 miles. The total length of the land frontier is about 6000 miles, and of the coast-line nearly 9000 miles.

The portion of the Indian Empire that lies south of the Tropic of Cancer may be roughly described as having the shape of two triangles with their bases on the tropic: a larger one, consisting of peninsular India, and a smaller one, forming part of the Indo-China peninsula.

The part of India north of the Tropic is irregular in shape.

## IV. Boundaries.

On the **North**, India has one of the most striking natural boundaries in the world. This is, for most of its length, the **Himalaya**, and, in the extreme north, parts of the **Hindu Kush** and the **Karakoram Mountains**

On the **West**, the land boundaries are the hill country separating it from Afghanistan, and the western border of Baluchistan.

On the **East**, the boundary is an irregular line, which, from the north-east corner of **Upper Burma** to the **Mekong River**, separates India from China It then follows the **Mekong** so long as that river divides British from French Indo-China, and then moves across to the **Salwin River** along the northern border of Siam. Thence it runs south along the western border of Siam to the narrow isthmus of **Kra** in the **Malay Peninsula,** and there it meets the Bay of Bengal at **Point Victoria.**

## V Coasts.

*Burmese Coast.* Starting from **Point Victoria**, the southernmost point of Burma, the coast line runs north to the **Gulf of Martaban** Off the southern part of this coast are the numerous islands, mostly uninhabited, of the **Mergui Archipelago.** From the head of the Gulf of Martaban the coast runs west, indented by the numerous inlets of the **Irawadi Delta,** of which the most important is the **Rangoon River,** to **Cape Negrais.** Here the coast line turns sharply north, and the mountainous **Arakan Coast,** with its many creeks and islands, tends gradually west to the head of the Bay of Bengal above Chittagong

*East Coast of India Proper* This runs in a westerly direction along the **Sundarbans,** through which the deltaic distributaries of the Brahmaputra and Ganges find their way to the sea, to the **Hugli,** the most western mouth of the Ganges, and the entrance to the port of Calcutta From this point the coast proceeds generally south-west to the **Kistna Delta,** and then the **Coromandel Coast** runs south to **Cape Calimere,** at the northern end of **Palk Strait,** which separates India from Ceylon.

The east coast has few indentations, and no good harbour.

**Point Palmyras** and **False Point** in Orissa are the most important projections.

The southern end of Palk Strait is almost blocked by the line of coral reefs and sand banks known as **Adam's Bridge.** South of this the **Gulf of Manaar,** between India and the west of Ceylon, extends to Cape Comorin.

*West Coast.* This runs north and slightly west from **Cape Comorin** to the **Gulf of Cambay.** The southern part of it is called the **Malabar Coast.** It is almost as unbroken as the east coast, and there is no good harbour except Bombay, which is one of the finest in the world. North of the Gulf of Cambay the peninsula of **Kathiawar** projects west, and forms the southern boundary of the opening called the **Gulf of Cutch,** leading inland to the **Ranns of Cutch,** which are salt marshes or shallow lagoons, according to the season of the year.

> From Cutch the coast continues north-west, past the mouths of the Indus, to the port of **Karachi,** and then proceeds west to **Gwatar Bay** on the Persian frontier.

## VI Land Elevation or Relief.

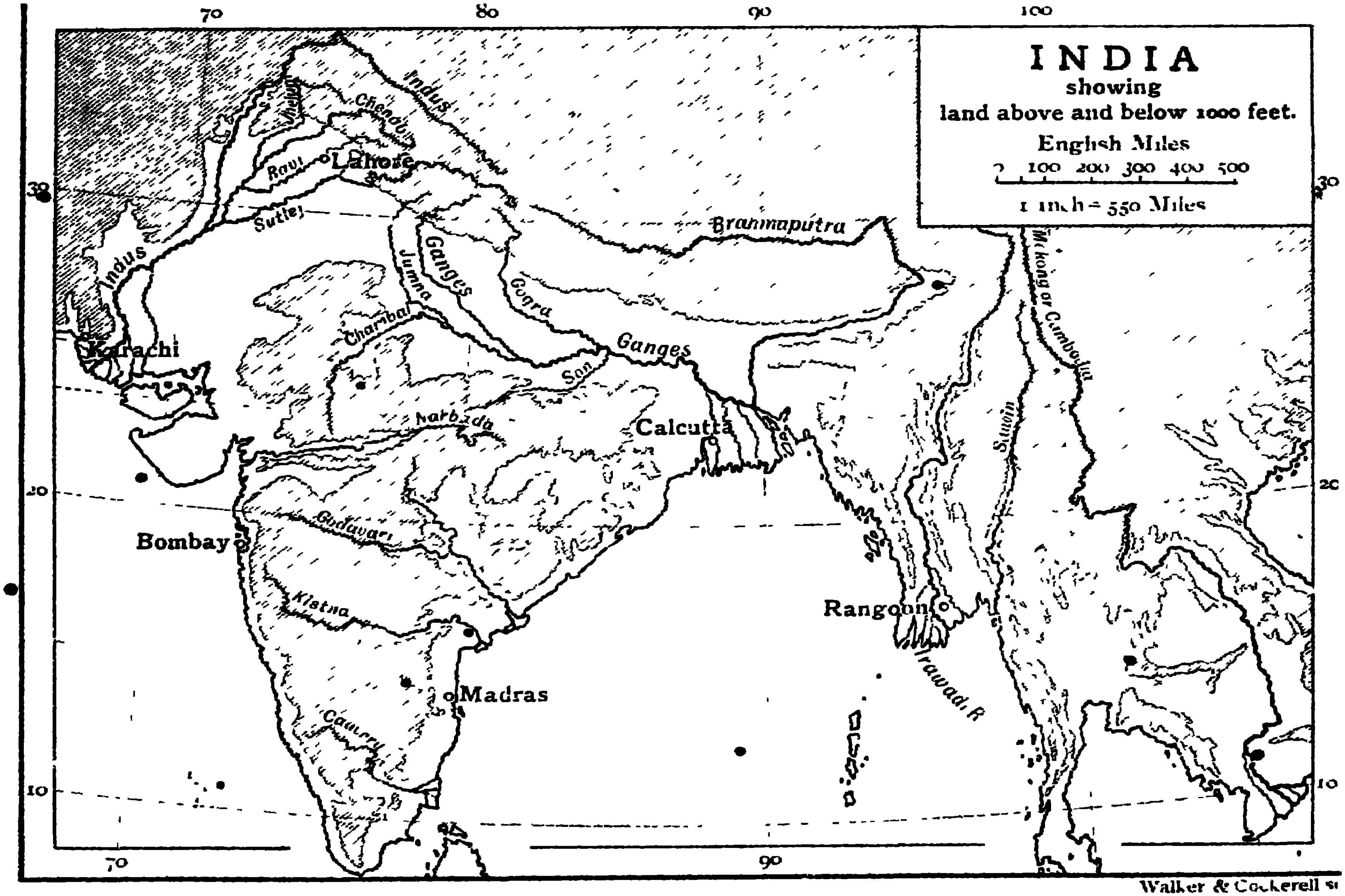
The clearest notion of the relief of India is got by supposing it sunk 1000 feet below its present level.

If this were done **Peninsular India** would become an **island** separated from the mainland of Asia by a channel of the sea connecting the **Arabian Sea** with the **Bay of Bengal,** and deepest at the two ends where now are **Sind** and **Lower Bengal.** The **Himalaya** and the **Suliman Mountains** would form a stupendous and unbroken mainland coast-line, extending from the Brahmaputra in north Assam to the neighbourhood of Karachi, while a narrow gulf would run far up the Brahmaputra valley. The deltaic portion of Lower Burma would disappear, and the valley of the **Irawadi** would become a gulf of very irregular shape, reaching up to the Chinese frontier. The east coast of the island of Peninsular India would be greatly indented Gulfs running far inland would take the place of the **Mahanadi** and the **Godavari** basins, and the **Kistna** and **Kavari** basins would form smaller gulfs The west coast would be much less broken, but long inlets of the sea would mark the present courses of the **Tapti** and **Narbada,** south of which the west coast would have continuous high land along its whole length.

PLAINS—

The plains of India are the parts submerged in the imaginary picture just given. They consist of

1. A great tract of country between the foot of the Himalaya and the highlands of Peninsular India, extending from the Arabian Sea to the Bay of Bengal. This tract, which comprises some of the most fertile parts of India, and which is known specially as '**The Plains,**' is the country watered by the three great rivers of India: the **Indus,** the **Ganges,** the **Brahmaputra,** and their tributaries.



Walker & Cockerell sc

2. The lower basin of the Irawadi in Burma.
3. A narrow strip round the coast of Peninsular India, much narrower on the west side than on the east, where the low country extends inland up the basins of the great rivers

PLATEAUX—

The greater part of Peninsular India is 1000 feet and upwards in height, and forms extensive plateaux or tablelands

1. Immediately south of the Ganges plain a belt of high land stretches across India from Lower Bengal to near the west coast.

   The eastern portion comprises **Chota Nagpur** and the **Orissa hill tracts**, and is bounded on the south by the basin of the Mahanadi and its tributaries.

   The central portion comprises parts of **Central India** and the **Central Provinces**, and is connected on the south with the **Deccan Plateau.**

   The western portion comprises parts of **Central India** and **Rajputana**, and is bounded on the south by the valley of the Narbada.

2. **The Deccan**,[1] the great plateau of the south, occupies most of the remainder of Peninsular India It is highest in the west, where it falls abruptly to the narrow plain of the west coast The eastern edge is only clearly marked in places, especially for some distance north of the **Godavari**, where the descent to the east coast plain is most abrupt

   This edge of the plateau is known as the **Eastern Ghats**, and the raised edge running parallel to the west coast is called the **Western Ghats.**

   **The Deccan** comprises parts of the **Central Provinces**, **Bombay**, and **Madras**, and the whole of the Native State of **Hyderabad**

3. The **Mysore Plateau** to the south is continuous with the Deccan, and its average height is over 2000 feet It comprises the Native State of **Mysore** and part of the province of **Madras.**

MOUNTAINS—

(1) **The Himalaya.** This mighty range of mountains rises abruptly from the plains of Northern India, and extends from the Indus in the north of Kashmir to the Brahmaputra in Upper Assam Its general direction from the Indus to Mount Everest is south-east, and it then runs nearly east to the Brahmaputra The total length of the range is about 1500 miles, and its breadth varies from 180 to 220 miles. It has

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[1] = the 'South.'

an average elevation of 17,000 to 19,000 feet, and about forty peaks are known which exceed 24,000 feet.

The best known of these are, beginning from the west:

**Nanga Parbat**, near the Indus, 26,629 feet;
**Nanda Devi**, 25,661 feet;
**Dhaualigiri**, 26,826 feet;
**Gosainthan**, 26,305 feet;
**Mount Everest** or **Gauri Sankar**, 29,002 feet;
**Kanchinjinga**, 28,156 feet; and
**Chumalari**, 23,933 feet.

(2) The **Karakoram Mountains** and the **Hindu Kush**, branch out south-east and south-west respectively from the **Pamir Plateau**, and form part of the boundary of North Kashmir. Both ranges have peaks of upwards of 20,000 feet. **Mount Godwin Austin**, 28,265 feet, in the Karakoram range, is the second highest mountain in the world.

South of the Hindu Kush, between the Indus and the frontier of Afghanistan, is a rugged and little-known mountain country, the home of the wild border tribes The best known range is the **Safed Koh**, running east and west between the Kabul and Kuram rivers, and rising to over 15,000 feet

(3) The **Suliman Range** runs parallel to the Indus and west of it, averaging 7000 feet in height The highest point is **Takht-i-Suliman**, 11,300 feet.

**Ranges of Peninsular India.** The high land of Peninsular India rises in places into well-defined mountain ranges.

The **Aravalli Hills**, in Rajputana, form a continuous range, averaging 2000 feet They run south west from Ajmere to near **Mount Abu**, 5650 feet high

The **Vindhya Hills** run for nearly 600 miles along the northern border of the Narbada Valley in Central India. They rise to about 2500 feet

The **Satpura Range** runs parallel to the Vindhya Hills, between the Narbada and Tapti rivers. It has an average height of over 2000 feet, and, in the Pachmarhi Hills in the Central Provinces, rises to 4500 feet

The **Western Ghats** run close along the Western edge of the Deccan plateau from south of the Tapti to the Nilgiri Hills in Madras. They average 4000 feet in height and are generally thirty to forty miles from the sea.

The **Nilgiri Hills** rise at the southern end of the Mysore plateau and are the meeting point of the Western Ghats and the ranges which are known as the Eastern Ghats.

The highest point is **Dodabetta**, 8760 feet.

The ranges in the east of the peninsula are not so continuous and not so high as the Western Ghats, so that the name **Eastern Ghats**, which is sometimes given to them, is not very suitable. North of the Godavari, irregular groups of hills rise to nearly 5000 feet, and, from a point within thirty miles of the coast, north-west of Madras, a fairly defined range runs south-west to the Nilgiris.

South of the Nilgiris, separated by a gap of about twenty-five miles, rise the **Anamalai Hills**, the highest point of which (8840 feet) is also the highest point in Peninsular India. Ranges of less height, gradually getting narrower, continue to Cape Comorin

The mountain system of India, east of the Brahmaputra, is entirely different from that of Peninsular India.

In the extreme north of the Indo-China peninsula almost unknown extensions of the eastern Himalaya break up into parallel ranges, gradually decreasing in height as they run south through the peninsula. The **Patkai** Mountains in the north divide Upper Burma from Assam, and are continued west into Assam by the **Naga**, **Khasi**, and **Garo Hills**.

To the south numerous parallel ranges form the **Chittagong** and **Arakan Hill Tracts** Other ranges separate the valleys of the Chindwin, the Irawadi, the Salwin, and the Mekong in Upper Burma, and the valleys of the Irawadi, the Sittaung, and Salwin in Lower Burma A branch of the range between the Salwin and Mekong continues down the Malay Peninsula, and is known as the **Tenasserim Yoma**

PASSES--

The passes over the mountain frontier of India are of great interest. By them the bands of immigrants and invaders, to whom are due its great variety of race and language, have entered the country at various times.

The best known are those of the north-west: the **Bolan Pass** in British Baluchistan on the road to Kandahar, and the **Khyber Pass**, west of Peshawar, on the road to Kabul.

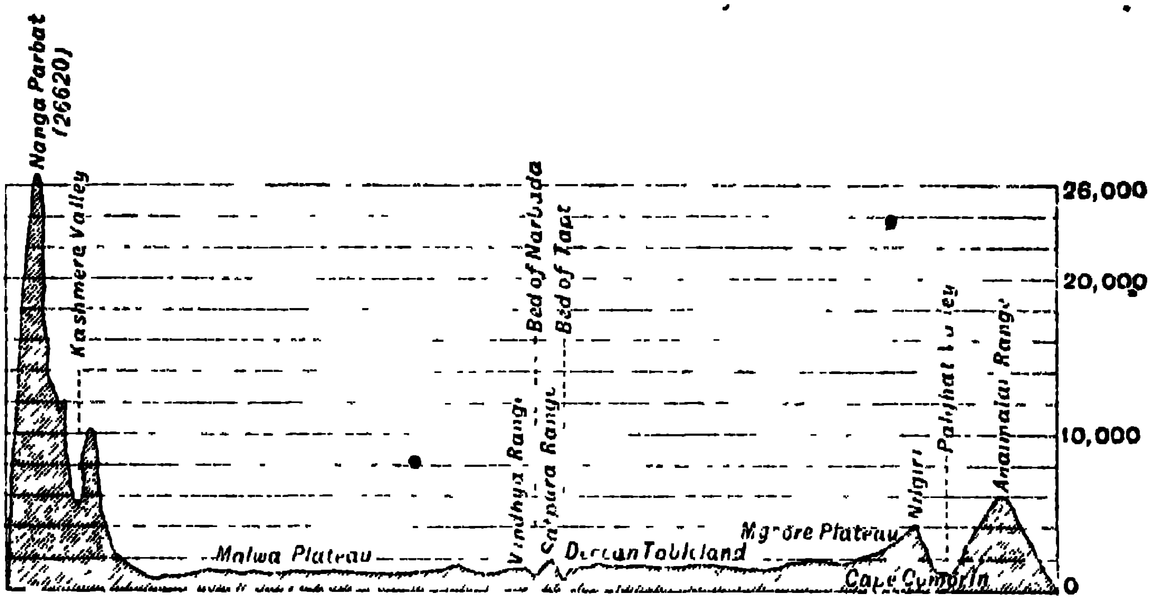
The passes over the northern mountains all exceed 14,000 feet.

The most used are the **Karakoram Pass**, leading from Kashmir to Chinese Turkestan, and the **Jelap-La Pass**, leading from Sikkim into Tibet.

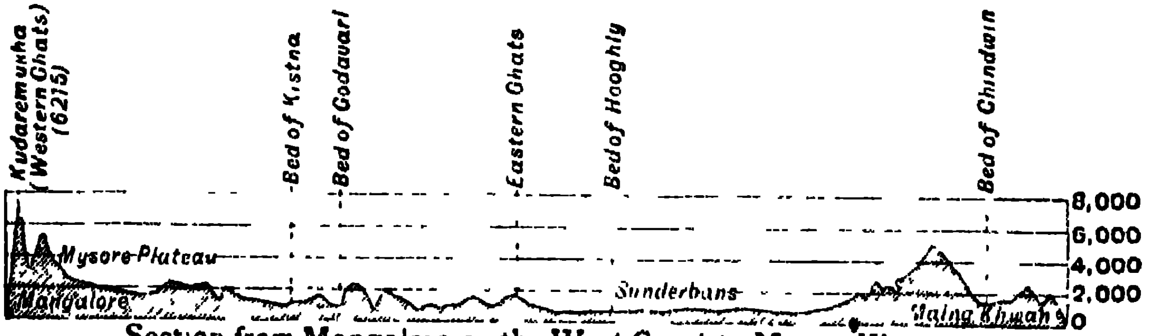
The passes leading from Burma into China, are not so high, but the country is little known, and is difficult of access.

## VII. Rivers.

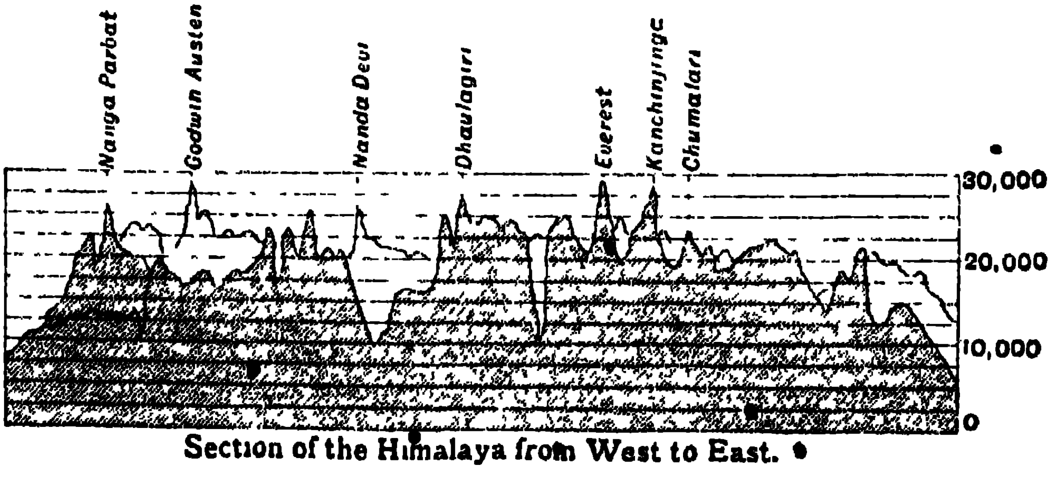
*Northern System.* (1) The **Indus** (2000 miles) rises in the



Section from Nanga Parbat to Cape Comorin.



Section from Mangalore on the West Coast, to Maing-Khwan in the Hukong Valley, Upper Burma.



Section of the Himalaya from West to East.

Tibetan plateau in about the longitude of Allahabad, near the sources of the Sutlej and Brahmaputra

(2) The **Ganges** (1500 miles), and its great tributary the **Jumna,** both rise on the Indian side of the Himalaya.

(3) The **Brahmaputra** (1800 miles) rises near the Indus in Tibet, but flows east behind the Himalaya, and round the eastern end of the range into Assam.

These three great rivers and their tributaries bring to the plains of India the whole drainage of the Himalaya: that of the northern side as well as the southern They also bring part of the drainage of the Karakoram, the Hindu Kush, and the Suliman Mountains Moreover, through their tributaries from the south, they receive much of the drainage of the northern portion of the plateau of Peninsular India

*The Rivers of Peninsular India.* Flowing to the **west coast:** the **Narbada** and **Tapti.**

Flowing to the **east coast:** the **Mahanadi, Godavari, Kistna,** and **Kavari.**

Owing to the greater height of the Western Ghats the slope of Peninsular India is eastwards, and the drainage takes this direction Hence, and also because of the nearness of the Western Ghats to the sea, there are no rivers of importance flowing to the west coast south of the Tapti. The large rivers all flow east.

*Rivers east of the Brahmaputra.* The most important of these is the **Irawadi.** This river is more than 1000 miles long, and rises on the southern slopes of the water-parting separating the Irawadi from the Brahmaputra valley in the extreme north of Burma. Its course throughout its length is generally south. Its delta begins more than 100 miles from the sea, the best known distributaries being the **Bassein River** in the west and the **Rangoon River** in the east.

The **Salwin**, though it is believed to have its source in the east of the Tibet plateau near that of the Yang-tse-Kiang, is, on account of the narrowness of its valley and the scanty rainfall of Tibet, a much smaller river than the Irawadi. Its course is generally south, and it enters the Gulf of Martaban near Moulmein

LAKES—

The only lakes of any size are:

**Wular Lake** near Srinigar, in Kashmir.

**Kolar Lake**, which fills a depression between the deltas of the Godavari and Kistna.

**Chilka Lake** in the south of Orissa, and **Pulikat Lake** in Madras, both connected with the sea.
**Sambhar Lake,** a shallow salt lake in Rajputana

## VIII. Climate.

Four causes have an important bearing upon the climate of India

1. **Latitude.** Half the country is within the tropics Hence every place in this half has the sun vertical at noon twice a year.

2. **Elevation.** A rise in height of 1000 feet causes a lowering of temperature of about three degrees. Hence the hills are cooler than the plains, and the climate of the plateau of Peninsular India is modified by its elevation.

3 **The Indian Ocean** with its branches forms a great mass of water which supplies moisture to the winds blowing from it over India

4 **The mountain wall of the Himalaya** shuts off India from Tibet, and arrests the moisture-bearing winds from the ocean. It also keeps out cold winds from the north.

Owing to the greater or less effect of these different causes, three quite distinct climates may be distinguished.

(*a*) **The damp and uniform,** such as is found in the coast districts of Travancore, Malabar, and Lower Burma, where the difference of temperature at the different seasons of the year is slight.

(*b*) **The dry and extreme,** such as is found in the West Punjab and Upper Sind. Here the difference between the hot and cold weather temperatures is very great

(*c*) **The wet and variable,** such as is found in Assam. This differs from (*a*) in having more frequent rain, and a well-marked cold season

Other climates will be found to be a modification of one or other of these three. For example, the climate of Northern Bengal approaches (*c*), while that of North-west Bengal and the north-west provinces is like (*b*), but has more rain and is less extreme. The climate of the Deccan also resembles (*b*), but the further south we go we find the winter less cold. The climate of the plains of Madras approaches (*a*), but is less damp and, in the north, less uniform.

SEASONS—

The year may be roughly divided into three seasons: the **hot weather,** lasting from March to June; **the rains,** lasting from

June to October; and **the cold weather,** lasting from November to February.

TEMPERATURE—

In Southern India the temperature is nearly the same all the year round, having an average of about 80°

From March to May the hottest part of India is the central portion of the peninsula, including the greater part of the Deccan and the Central Provinces. Towards the end of May the region of highest temperature moves towards the Indus, and, in the desert stretching from Sukkur towards the Bolan Pass, the temperature has been known to exceed 120° in the shade.

The coolest parts of India during the hot weather months are Malabar and Assam.

In the rainy season the average temperature is not so high, and is much more uniform.

In the cold weather the mean daily temperature falls gradually, as we go north, from 80° in Southern India to 55° in the north of the Punjab

> The intense heating which the land undergoes from March to May gives rise to strong winds, which in the interior are dry, hot **land winds,** and in the districts near the coast, **sea winds.**

RAINFALL—

**The South-west Monsoon** usually sets in on the Bombay and Bengal coasts during the first fortnight of June, and for the next three months rain is more or less general all over India. A glance at the map will show that the south-west monsoon current must strike the west coast almost at right angles, and, accordingly, the rainfall is very heavy all along the face of the Western Ghats, and exceeds 100 inches. It strikes almost as directly the coast of Burma, which has an equal rainfall, and less directly on the coasts of Eastern and Lower Bengal and Orissa, to which parts of the country it gives between 50 and 100 inches of rain.

The rest of India has an average rainfall of less than 50 inches. The areas of least rainfall are the Great Indian Desert in Rajputana, the neighbouring portions of the Punjab and Sind, and the corresponding tract of country on the other side of the Indus, which has an annual rainfall of less than ten inches.

Finally the monsoon current strikes the mountain barrier on the north, and there deposits practically the rest of its moisture.

The Garo and Khasi hills in Assam are full in the way of the current, and have the highest rainfall known—upwards of 500 inches at Cherrapunji.

In September the force of the monsoon begins to abate. In that month the rains end in North-western India, in Bengal in October, and later by degrees down the coast of the Bay of Bengal, lasting in the Carnatic till December. As the south-west monsoon current stops, a dry north east wind begins, which gradually becomes general, and brings in the cold weather—the season of the **North-east Monsoon.**

CYCLONES—

During the south-west monsoon the Arabian Sea and the Bay of Bengal are subject to violent circular storms called cyclones. The most dangerous cyclones occur at the beginning and end of the rainy season, and in the Bay of Bengal they accompany the monsoon as it withdraws down the bay. During the rainy season cyclones of smaller intensity occur frequently in the Bay of Bengal, and travel far inland, bringing heavy rain to Chota Nagpur and the Central Provinces

## IX. Plants and Animals.

The distribution of plants and animals is very closely connected with climate.

The valuable timber tree, the **teak**, for instance, cannot stand cold, and consequently, while it flourishes over most of Peninsular India and Burma, it is not found in Bengal or in North-West India, where there is a well-marked cold weather.

This is true in a less degree of the **tal** or **Indian palmyra,** which is not found in the Punjab, nor, as a rule, in the North-West Provinces

The **cocoa-nut**, again, thrives only in the tropics and near the sea, and is abundant round the coasts of tropical India, and on the islands of the Bay of Bengal and the Arabian Sea.

The **date-palm** can stand considerable changes of temperature and thrives best in a dry climate, even in Sind; while the great **Talipot palm** can only grow in a warm, moist climate, such as is found in Travancore and Ceylon.

The **sal**, another valuable timber tree, grows well along the foot of the Himalaya, and in the forests of Chota Nagpur and the Central Provinces.

Other characteristic or valuable trees are the **sandal wood** in Mysore, the **deodar** in the north-west Himalaya, the **india-rubber tree** in Assam and Upper Burma, and more widespread, the **banyan, pipal** or sacred fig tree, **tamarind, mango, nim,** the **tamarisk** in dry climates, **sisu** (a good timber tree), the **ebony, bamboo, plantain.** The forests of India are now carefully conserved, and are an important and increasing source of revenue.

Wild animals are numerous. The **elephant, tiger, wild ox, buffalo, leopard, wild cat, bear, hyena, wolf, jackal, wild dog, wild hog, monkey,** and many kinds of **deer** are found in the jungles of the plains and lower hills

The **elephant, buffalo,** and some other large wild animals are not found in the Punjab.

The **rhinoceros** is found in Bengal, Assam, and Burma; the **lion** in Gujarat; the **wild ass** in Sind.

The birds are often conspicuous by their gay plumage, but singing birds are rare.

The **peacock,** and the **jungle fowl** (supposed to be the ancestor of the domestic fowl), are indigenous

**Parrots,** various **cranes, vultures, kites,** and **pigeons** are common.

The **floriken** or Indian bustard is a characteristic game bird.

The **maina** is found everywhere, and a hill variety makes an excellent talker.

Among reptiles there are two kinds of crocodiles: the blunt-nosed, man-eating **maggar,** and the long-snouted, fish-eating **gavial** The latter is only found in the northern rivers.

The **python** is found in all parts, and venomous snakes are very common, especially the **cobra, Russell's viper,** and the **karait**

Wild animals, chiefly the tiger, leopard, and venomous snakes, cause the death of many human beings, and of great numbers of cattle, yearly

Besides the ordinary domestic animals, the **buffalo** is common.

The **bullock** is the animal chiefly used in the work of agriculture.

Other beasts of burden are the **horse, ass, camel, buffalo, elephant,** and in the higher Himalaya the **yak.**

## X. The People

POPULATION—

The population of India, as reckoned at the Census of 1901, was about **294 millions.** A population more than seven times as great as that of the British Isles, and more than twice that of European and Asiatic Russia.

The average number of people per square mile is about 170; in England and Wales it is 497 per square mile. But the population is very unequally distributed.

The hills of Central India and the sands of Western Rajputana are very scantily populated, while the Ganges-Brahmaputra basin, Southern India, and the plains along the coast, in short, the most fertile and civilised parts of the country, are very thickly populated

Large portions of Lower Bengal and Bihar are more densely populated than any European country.

It is this crowded population that makes the failure of crops, with the consequent risk of famine, so serious In England more than half the people live in large towns and are artizans or are engaged in trade; in India the majority of the people are directly dependent on the produce of the soil

At the census of 1891 there were in India only **seventy-five** towns with over 50,000 inhabitants, containing altogether a little over **three** per cent. of the total population of the country In 1891 England and Wales, with one-thirtieth the area of India, had **sixty-two** towns with over 50,000 inhabitants, containing altogether **forty** per cent. of the total population.

RACE—

The people of India do not form one nation, held together by common ties of language and history Nor do they form a collection of nations such as we have in Europe. They are a collection of many different races Sometimes, as in the case of the **Pathans, Bhils, Gonds, Burmese,** and others, the racial characters have been maintained; but there has been great intermixture, and, as a rule, difference of race is less important than difference of caste or religion Nevertheless, in the differences of colour, features, stature, and other characters due to race, there is an extraordinary variety, and we find among the peoples of India examples of the lowest and highest types of mankind. Four races can be distinguished

1. The **Kolarians** were the aboriginal inhabitants, and their descendants are to be found in the wild, hilly districts all over India—the fastnesses to which they retreated before enemies of higher civilization. They are most numerous in **Chota Nagpur** and the **Central Provinces**, and are a small, dark race, with broad features. They now number between four and five millions.
2. The **Dravidians** now occupy **Southern India** and part of the **Deccan**, making nearly a fifth of the whole population. Some people of this race, such as the **Gonds**, are as little civilized as the Kolarians, and it is not certain whether, as a race, they are distinct.

3. The **Aryans** came into India from the north-west, forced the Dravidians south, and gradually brought them under their civilizing influence. The inhabitants of the plains of **Northern India** and part of the **Deccan** are of Aryan extraction, and form about three-fourths of the whole population of India.
4. The **Tibeto-Burmans** comprise the people of Mongolian origin who occupy parts of the Himalaya bordering on **Tibet**, and the inhabitants of **Burma**. They form about three per cent. of the whole population of India.

LANGUAGE—

Language and race go closely together, though we sometimes find a conquered race adopting, in course of time, the language of the conquerors The **Bhils**, for example, a **Kolarian** race, now speak an Aryan dialect.

At the census of 1891 more than eighty distinct languages were found to be in use in India. These may be divided into groups corresponding with the division according to race, and the most important languages of each group are

1. KOLARIAN : **Santali**, the language of the Santals in South Bihar.
2. DRAVIDIAN **Telugu** (North Madras), **Tamil** (South Madras), **Malayalam** (Malabar Coast), **Kanarese** (Kanara, Mysore and Karnatic uplands).

   Owing to the influence of Hinduism, many words of Aryan origin have found their way into the literary forms of the Dravidian languages, especially Tamil.
3. ARYAN. These languages are the modern representatives of the **Prakrit** or vernacular dialects into which the Sanskrit of the original Aryan invaders broke up. The following seven are the most important: **Hindi**, **Bengali**, **Marathi**, **Punjabi**, **Gujrati**, **Uriya**, and **Sindhi**

**Hindustani**, or **Urdu**, is derived from Hindi, with a large admixture of Persian and Arabic. It owes its existence to the Mughal rule, and is now a general means of communication among educated people throughout the greater part of India.

RELIGIONS—

The great majority of the people of India—72 per cent. of the whole population—are **Hindus** by religion. The most striking feature of Hinduism is the caste system, which is an arrangement of the people, mainly according to occupation, into classes which are mutually exclusive.

After Hinduism, the most important religion of India is **Muhammadanism**, which is professed by about 20 per cent. of the population, and is the prevailing religion in the North-West and in Eastern Bengal The great majority of Indian Muhammadans are **Sunnis.**[1]

**Buddhism**, which had its origin in a protest against caste and the power of the Brahmins in the fifth century B.C., and was the dominant religion for some centuries after Christ, is now practically extinct except in Burma, Sikkim, and the north-east of Kashmir, where it is the prevailing religion.

The **Sikhs** and **Jains** are offshoots from Hinduism. The former, a military sect, have abolished caste; the latter are remarkable for their extreme respect for all forms of animal life, and are found almost entirely among the mercantile classes of Western India

Nine millions of the population, chiefly aboriginal races in the hills of northern Peninsular India, Assam, and Burma, follow a rude nature-worship, believing that souls inhabit inanimate objects Hence the name **Animism**[2] (Lat. *animus*, soul) has been given to this form of religious belief, which is marked by gross superstition, and the practice of sorcery.

**Christianity** is professed by more than two millions of the native inhabitants of India These are chiefly found in Southern India In recent years Christianity has made considerable progress among the Animists of Chota Nagpur and South Bihar.

CONDITION OF THE PEOPLE—

Of the 294 million inhabitants of India more than half are directly engaged in agriculture. The material prosperity of this enormous number of people depends mainly upon two things: the natural fertility of the soil, and the number of people per square mile the soil has to support. As has been said, the population is very unequally distributed. On the one hand there are large tracts of country with fewer inhabitants than the soil can easily support Here the people are comfortably off, as in Northern and Eastern Bengal, and in Burma. On the other hand, there are also large tracts, for example, in North Bihar, where the population is so great that even in good years the crops do little more than provide sufficient food for the inhabitants As a rule, whenever the population exceeds 640 to the square mile, the struggle for existence becomes hard.

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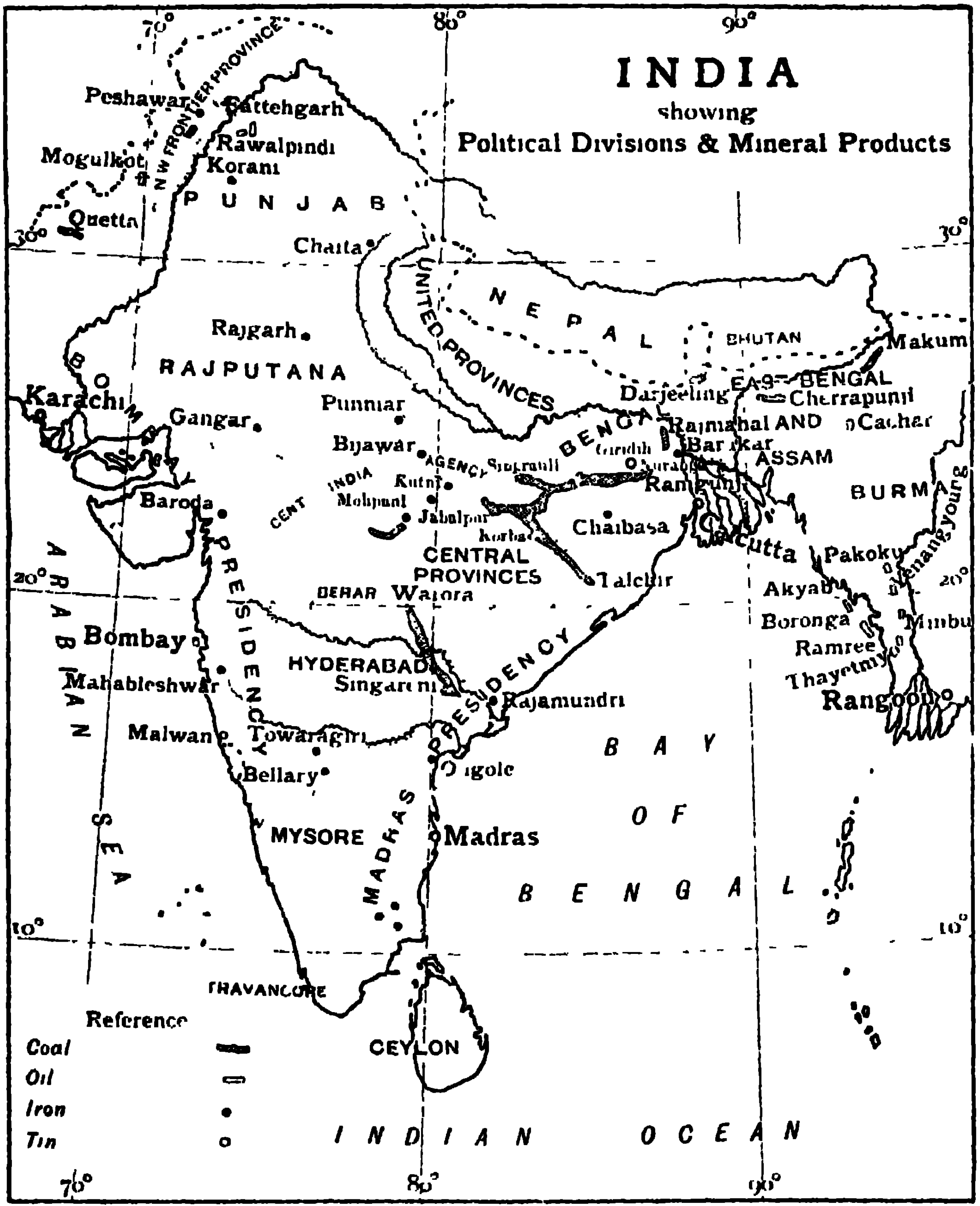
[1] **There are two great Muhammadan sects: Sunni and Shiah. The Muhammadans of the Turkish Empire and India are mostly Sunnis; the inhabitants of Persia are chiefly Shiahs.**

[2] **See Introduction, § 79.**



Walker & Cockerell sc.

The natural remedy for this is emigration, but the agriculturist clings to his native soil, and, so long as he can live, is loth to leave it. Of late years there has been a growing migration from Bihar to sparsely populated and fertile Assam.

and some waste lands in the Punjab lately brought under irrigation have been colonized from other parts of the country Burma also offers a great field for immigrants. The country is most fertile ; it is thinly populated and the native Burman is not inclined to work

## XI. Products and Industries.

MINERAL PRODUCTS—

In proportion to its size, and compared with European countries, India is poor in minerals There are, however, very large supplies of **coal, iron,** and **salt,** hitherto comparatively little drawn upon **Mineral oil** and **tin** also occur in important quantities.

**Coal** is largely worked in Bengal: also in Assam, the Central Provinces, and Madras, and, since the development of this industry, the import of coal from England has considerably declined.

**Iron** is found all over India, but the only English iron-works are at Barakar in Bengal. The best ores are found in Madras

**Mineral oil** is not found in Peninsular India The most productive wells are in Burma and Assam

**Tin** is only found in quantity in Tenasserim in Burma

**Rock salt** is found in magnificent beds in the Salt Range in the Punjab.

Minerals which are found in quantities of less importance are **gold** in Mysore, **copper** and **lead** in Bengal and other parts, **diamonds** in the Deccan and elsewhere, **rubies** in Upper Burma, **corundum** or **emery stone** in Southern India, **mica** in Chota Nagpur and South Bihar, **plumbago** in Travancore.

AGRICULTURAL PRODUCTS—

About a quarter of India is unculturable, and nearly a quarter is culturable but at present uncultivated A little more than one-ninth is occupied by forests, and the rest is under cultivation

The chief agricultural products, arranged in order of importance under each heading, are ·

1. Food Crops · **rice,** the **millets, gram** and other **pulses, wheat** and **barley, sugar, spices.**
2. Oil Seeds : **linseed, til** or **gingelly, rape** and **mustard, castor.**
3. Fibres · **cotton, jute, hemp, silk, wool.**
4. Dyes : **indigo. safflower**
5. Drugs, Narcotics, and Stimulants : **tea, opium, tobacco, coffee, cinchona, Indian-hemp.**

Cultivated fruit trees are the **mango**, **plantain**, **orange**, and **jack fruit**, which are indigenous; also the **pummelo**, **lime**, **guava**, **papaya**, **custard-apple**, **pine-apple**, the **pumpkin** and other gourds, and in Northern India the **litchi** and **peach**.

Other products are **cutch**,[1] **lac**,[2] **wild silk-worms**, **India-rubber**, **palm sugar**, and **coir** or **cocoa-nut fibre**

**Rice** is chiefly grown in the deltas, and in low-lying lands with an ample water-supply

**Wheat** and **barley** are grown in the North-West and parts of the Central Provinces, where the cold weather is well marked.

The **millets** and **pulses** are grown almost everywhere and are the chief food of the poorer classes generally

**Linseed** is mostly grown in the Central and North-West Provinces; **gingelly** in Madras, Bengal, and Burma

**Cotton** is largely grown in Bombay, Berar, and Hyderabad; **jute** in Eastern Bengal.

**Indigo** is produced in Eastern Bengal and Tirhut.

**Tea** is an important and growing industry in Assam and Northern Bengal

**Coffee** is grown in South India, but is not a flourishing industry.

**Industries** using steam-driven machinery are at present in their infancy in India.

There are over 200 **cotton mills** in India, most of them in Bombay: there are also 38 **jute mills**, 9 **paper mills**, and 6 **woollen mills**. Cawnpore has important cotton and leather industries.

Native industries are now chiefly those which supply local wants, or those which produce the rich fabrics, such as **gold and silver brocades**, **carpets**, **fine muslins**, **jewellery**, **ornamental work in metals and ivory**, for which India is still famous.

## XII Means of Communication.

ROADS—

Before the period of English rule India had scarcely any roads. It is now traversed from end to end by solidly-constructed main roads, with innumerable branch roads. There are now about 40,000 miles of macadamized road, mostly made within the last sixty years

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[1] Cutch or catechu is an extract from certain species of acacia used in dyeing and tanning. It gives browns and yellows, and is similar to the gambier of the Malay Peninsula.

[2] Lac is a resinous incrustation formed on the twigs and young branches of various trees by an insect. It is used for dyeing, and the preparation of shellac varnish and sealing-wax.

WATERWAYS—

The **Indus, Ganges, Brahmaputra** and **Irawadi** and their tributaries are magnificent natural waterways, navigable for thousands of miles. But most of the other rivers are less useful as waterways, being very low in the dry season, and dangerously full and rapid in the rains.

> The utility of the rivers, both for navigation and irrigation, has been greatly increased by the construction of canals, chiefly in the Punjab, the North-West Provinces, and along the Coromandel Coast.
>
> The length of the **Ganges canal** alone, with its branches, is over 3000 miles, and there are altogether over 13,000 miles of canal now in use.

RAILWAYS—

At the end of 1903 there were about 27,000 miles of railway open in India—rather more than in the United Kingdom. More than half of this was of the standard Indian gauge of 5½ feet; 9000 miles were of metre gauge, the rest of various smaller gauges.

The railways of India are useful in various ways. They develop trade, and diminish the danger of famine by making communication easy between different parts of the country; and they serve military purposes by enabling troops to be moved quickly to different parts of the frontier. The great trunk lines forming the main connexions over the length and breadth of the Empire are nearly all complete. These are the lines connecting:

1. Calcutta with the Indus and Peshawar.
2. Calcutta with Bombay.
3. Bombay with Agra and Allahabad, and so with (1)
4. Bombay with Madras.
5. Madras with the west coast and Calicut.
6. Karachi with Lahore, and so with (1)
7. Madras with Calcutta by the east coast.
8. Rangoon with Mandalay and the north of Burma.
9. Bengal with Assam.

> The last two are metre gauge lines; the rest standard gauge. No. 9 is not yet finished. Numerous branch lines connect these trunk lines with other parts of the country, and serve as feeders to them.
>
> There are, besides, additional trunk lines. Two lines, for example, now connect Calcutta with Bombay, and a metre gauge system is gradually extending across Northern India from the Brahmaputra.

A metre gauge system connects Rajputana with the North-West Provinces and the Punjab, and with Bombay, while another metre gauge system connects the Bombay Deccan with Mysore and the Carnatic

TELEGRAPHS—

Telegraphs as a rule accompany railways, but the telegraph system is decidedly more complete

## XIII. Trade and Commerce.

FRONTIER TRADE—

Hitherto trade with states beyond the land frontiers of India has not been of great importance. Outside India good roads do not exist, and the trader who crosses the frontier has to face heavy customs dues as well as the difficulties and dangers of the route.

The chief trade is with Nepal and Afghanistan, and there is a little but growing trade with Tibet and Western China.

The exports from India are · **Cotton goods, metal ware, tea, grain** and **pulse, raw cotton, provisions, salt, sugar, silks** and **woollens, spices, tobacco, indigo** and other dyes

Imports are · **Cattle, ghi, timber, horses, fruits, raw wool, hides, seeds,** and **drugs.**

FOREIGN TRADE—

The trade with foreign countries has increased over twenty-one fold in the last 70 years. In the years 1903-4 its value reached the enormous sum of 302 crores[1] of rupees

About half of this is with England; next comes China with about a tenth; then comes Germany, France, the Straits Settlements, the United States of America, and other countries with still smaller proportions.

The exports always considerably exceed in value the imports. This is because India owes money to England, and the excess in value of exports over imports may be considered to represent the interest on the debt.

The chief **exports** in 1904, arranged in order of value, were · **raw cotton, rice, oil seeds, raw jute, wheat, manufactured cotton, opium, manufactured jute, hides and skins, tea, lac, wool, coffee, indigo, oils, timber.**

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[1] A crore is 10,000,000 rupees, which, if the rupee were=2 shillings, would be £1,000,000. At the present rate of exchange (£1=Rs. 15) a crore is only two-thirds of a million.

The chief imports in 1904, arranged in order of value, were: **cotton goods, metals with hardware and cutlery, sugar, oils, machinery, silk, woollen goods, provisions, clothes, railway materials, drugs.** Cotton manufactures far exceeded in value any other import

Almost the whole of the foreign trade is done in the five principal ports **Calcutta, Bombay, Rangoon, Madras,** and **Karachi.** Calcutta and Bombay between them take nearly 80 per cent. of the whole, Calcutta of late years having had a somewhat larger share than Bombay.

## XIV Government.

The King of England is the **Emperor of India,** and rules the Indian Empire through the **Secretary of State for India** and his **Council** in England, and the **Viceroy** and **Governor-General** and his **Council** in India.

The **Viceroy's Council** consists of six members, presiding respectively over the departments of **finance, commerce and industry, military administration, legislation, public works,** the **foreign** and the **home department** This last deals with the internal administration of the country by means of the various public services The member of Council in the home department also has charge of the department of **revenue and agriculture.** The Viceroy is also assisted by a **Legislative Council** "for making laws and regulations," which consists of the ordinary members of Council and ten to sixteen others nominated by the Viceroy. The seat of Government is Calcutta in the cold weather, and Simla in the hot weather.

REVENUE—

The revenue of India in 1903-1904 was 124·6 crores of rupees, that of the United Kingdom for the same period being about 141½ million pounds sterling

More than a quarter of the revenue of India was produced by **payments made for the use of the land,** which is, in India, the property of the State These payments are made either directly by the **cultivators,** or by **Zamindars,** who receive the rents of the cultivators, and pay a fixed sum to Government

Nearly a quarter of the revenue was obtained from **railways.** Other important sources of revenue were the taxes on **salt** and **opium, excise** and **customs dues, other rates** and **taxes, stamps, post-office** and **telegraphs, irrigation,** and **forests.**

EXPENDITURE—

For several years past, the revenue has exceeded the expenditure, and this has enabled the Government to reduce the tax on salt.

About a quarter of the revenue is spent on the **army**, nearly a quarter on **railways**, and about a quarter in the **payment of Government officers** in all branches of administration.

Other important charges on expenditure are **public works, irrigation, interest on debt, post office** and **telegraphs, etc.**

The revenue has increased considerably during the last twenty years, proving that, although the expenditure has also increased, the resources of the country are greater than they used to be.

ARMY—

The strength of the British Army in India (European and Native) is about 230,000 men, of whom about 74,000 are Europeans. There are, besides, about 33,000 volunteers of European extraction. The armies of the native states number about 140,000 men, but they are, with some exceptions, badly disciplined and badly armed.

EDUCATION—

The spread of education has gone on rapidly during the last fifty years, but, even now, the vast majority of the people of India can neither read nor write. By far the most advanced part of the country in the matter of education is Lower Bengal. Lower Burma, and parts of Madras and Bombay come next

**Higher education** received a great impetus through the establishment of Government and other Colleges teaching up to a high standard, and is now practically controlled by the **Universities** of **Calcutta**, **Madras**, **Bombay**, the **Punjab**, and **Allahabad**, which hold examinations and grant degrees.

Not many years ago the **education of women** hardly existed, but there are now several special colleges for girls, teaching up to the standard of the B.A. degree.

**Technical Education** is receiving some attention. The future welfare of India depends very largely on the development of its industries and manufactures, and the natives of India can now obtain various forms of special training in the technical schools that have been established in most of the provinces.

FOREIGN EMIGRATION—

The emigration from one part of India to another and its importance have been mentioned (p 144).

Emigration to foreign countries is also encouraged by Government, and the welfare of the emigrants is carefully looked after. The chief emigration is to the British colonies of **Singapore, Natal, Mombassa, Trinidad, British Guiana, Dutch Guiana, Fiji,** and **Mauritius.** The returning emigrants often bring considerable savings with them.

The islands of the Malay Archipelago, the northern part of Australia, and the east coast of Africa are well suited for Indian labour, and have ample room for it.

## XV Political Subdivisions.

The Supreme Government does not administer the provinces of the Empire directly. The **Presidencies** of **Madras** and **Bombay** are each under the immediate rule of a **Governor,** who is appointed in England, and has a council to assist him The **Punjab,** the **United Provinces** of **Agra** and **Oudh, Bengal, Burma,** and **Eastern Bengal** and **Assam,** are ruled by **Lieutenant-Governors,** the **Central Provinces** and the **North-West Frontier Province,** by **Chief Commissioners.** But all over India the real unit of British administration is the **District.** The average size of a District is about 4000 square miles—a little less than that of the two English counties of Devonshire and Cornwall. Each district is under the charge of an officer who is responsible for its welfare in every way The older Districts are administered according to a settled code of laws and regulations, and are called **Regulation Districts.** The officer in charge is called a **Magistrate and Collector,** from his two principal duties: the maintenance of order and the collection of the revenue.

In those Districts whose inhabitants are of backward civilization, or in those which have come more lately under British rule, the officer in charge is allowed more freedom, so that he is able to administer them in accordance with the special requirements of the people, and their traditional customs. Such Districts are called **Non-regulation** The officer in charge is called a **Deputy-Commissioner,** and he need not be a member of the Indian Civil Service

In all the provinces except Madras several Districts are grouped together to form a **Division.** A Division is under the general charge of a **Commissioner** who is directly responsible to the Provincial Government. In Madras the Districts are larger, averaging about 5800 square miles: nearly the size of the English county of Yorkshire.

Besides the 259 Districts directly under British rule there are a number of **Feudatory States** under the rule of **Native Princes.** These occupy less than half the total area of the Empire, and contain less than a quarter of the total population. In the larger States there is an officer representing the British Government called a **Resident,** who acts as adviser to the native ruler, and as a check upon serious misrule With the same object the smaller States are arranged in groups, and a political officer, called the **Agent to the Governor-General,** is connected with each group The more important Native States deal directly in political matters with the supreme government; the rest are under the provincial governments with which they are geographically connected

The Provinces, Feudatory States, and other divisions of India will be treated in the order of the table on next page

### QUESTIONS

1. The Indian Empire lies between lat 8° N. and lat 37° N. What other parts of the world lie between the same parallels?
2. Describe the land boundaries of India.
3. Name, in order from east to west, the chief openings in the coast of India How much coast line is there for every 200 square miles of land in the Indian Empire?
4. What parts of India would be submerged if the country were to sink to 1000 feet below its present level?
5. What is the Deccan? What other plateaux is it connected with?
6. Draw a sketch map showing the relative positions of the Vindhya and the Satpura Hills, and the rivers Nerbudda and Tapti.
7. Describe the mountain system of Southern India.
8. Describe the river system of Northern India.
9. Draw a sketch map to illustrate the river system of Burma.
10. Give some account of the climates of India. At what time of year is temperature most uniform all over the country? Why?
11. Mention some of the most characteristic trees of India, and state in what localities they are found.
12. What is the most striking difference between the distribution of the population in India and in England?
13. Has India much mineral wealth? Where is it chiefly situated?
14. Which of the vegetable products of India are of most commercial value?
15. What are the staple food-crops of India?
16. What parts of India have good natural means of communication? Name the most important trunk lines of railway.
17. Write a short account of the way in which India is governed.

## THE INDIAN EMPIRE

| | Provinces | Area in Square Miles in round numbers | Government |
|---|---|---|---|
| 1. | Bengal, | 110,054 | Lieutenant-Governor. |
| 2. | Eastern Bengal and Assam, | 101,147 | Lieutenant-Governor. |
| 3. | Burma, | 236,700 | Lieutenant-Governor. |
| 4 | The United Provinces of Agra and Oudh, | 107,000 | Lieutenant-Governor. |
| 5 | The Punjab, | 97,000 | Lieutenant Governor. |
| 6 | The N W Frontier Province, | 16,400 | Chief-Commissioner. |
| 7. | Kashmir, | 81,000 | Maharaja. |
| 8 | Baluchistan, | 72,000 | The Khan of Kalat. |
| | British Baluchistan, | 46,000 | Chief-Commissioner. |
| 9 | Rajputana, | 128,022 | Native Princes |
| | Ajmere, | 2,711 | Chief-Commissioner. |
| 10 | Central India, | 79,000 | Native Princes. |
| 11. | Central Provinces, Berar, | 100,396 | Chief-Commissioner |
| 12 | Bombay, | 123,000 | Governor |
| 13 | Hyderabad, | 82,600 | Nizam. |
| 14. | Madras, | 142,000 | Governor. |
| 15. | Mysore, | 30,000 | Maharaja |
| | Coorg, | 1,600 | Chief-Commissioner. |
| 16. | Baroda, | 8,000 | Maharajah. |
| 17 | The Islands, | 2,394 | |
| | Nepal, | 54,000 | Maharaja. |
| | Bhutan, | 10,800 | Deb Raja. |
| | Ceylon, | 25,365 | Governor |
| | French Possessions, | 203 | Governor-General. |
| | Portuguese Possessions, | 1,605 | Governor-General. |

# BENGAL.

## I. Introductory.

THIS province consists of the **British Districts** under the rule of the Lieutenant-Governor of Bengal, and the **Native States** of **Sikkim**, and the **Orissa** and **Chota Nagpur tributary Mahals.**[1]

Bengal is divided by its geographical features, and by the prevailing languages, into four sub-provinces.

**Bengal Proper**, consisting of the Ganges delta and the plain to the north.

**Bihar**, the Ganges-Basin north-west of Bengal Proper.

**Orissa**, the coast-plain occupied by the deltas of the Mahanadi and its allied rivers, and the hill country behind it.

**Chota Nagpur**, the hill country south of Bihar and west of Bengal Proper.

## II Geographical Situation.

The province lies at the head of the Bay of Bengal, and extends chiefly north and north-west from the coast-line.

Bengal is divided into two nearly equal parts by the Tropic of Cancer, which passes near Ranchi, Krishnagar, and Comillah.

## III Size.

The total area of Bengal is estimated at 110,054 square miles.[2]

## IV. Boundaries.

On the North : Nepal and Tibet.
On the East : Eastern Bengal.
On the South : the Bay of Bengal and Madras.
On the West · the Central Provinces, Central India, and the United Provinces.

Bengal has the Himalaya as a natural frontier between it and Tibet.

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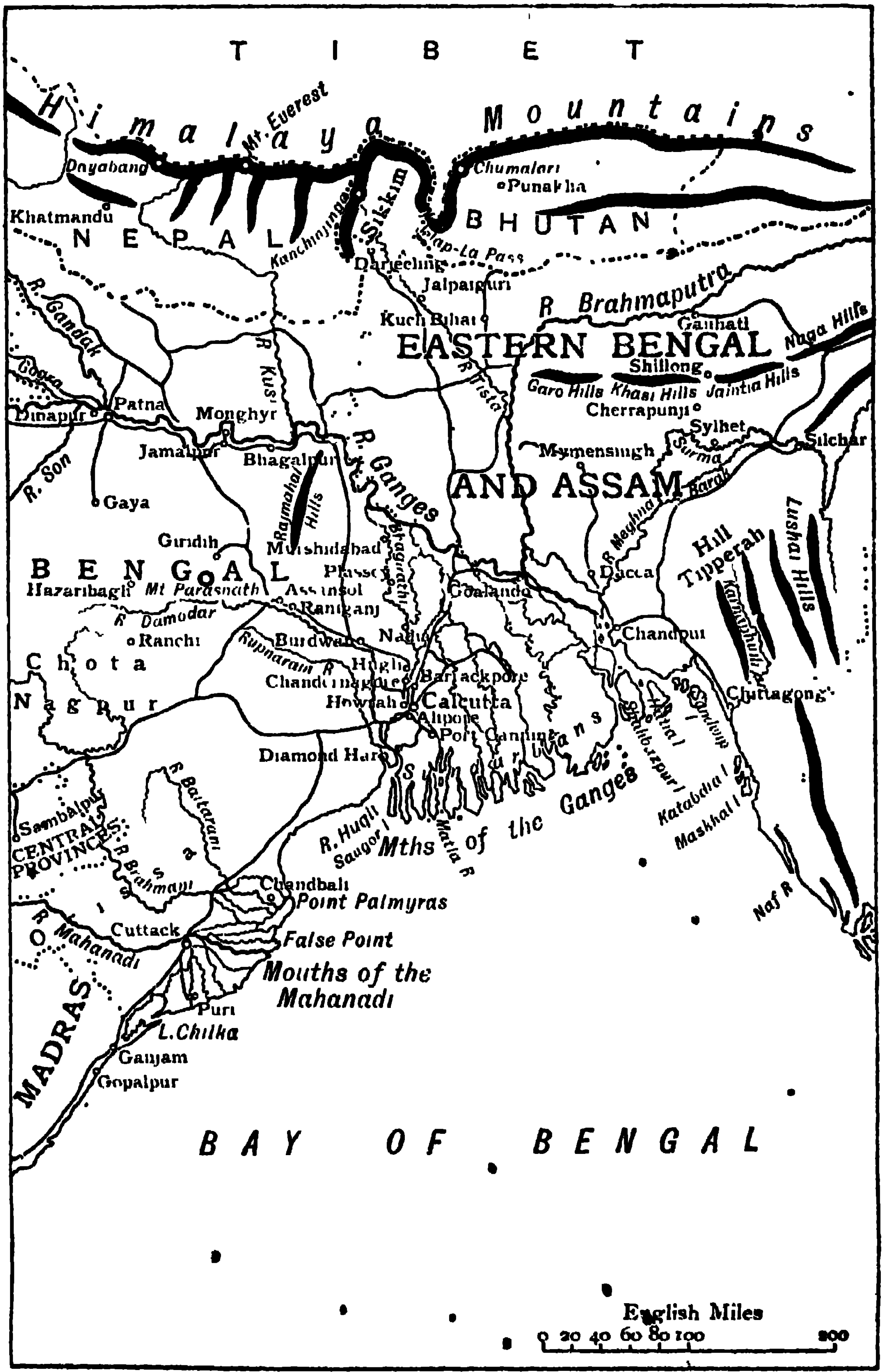
[1] Districts or states

[2] This area includes the Sundarbans, 5,309 square miles, and the South Lushai Hills, 2,406 square miles.



Walker & Cockerell sc

## V. Coast.

The coast is generally very low, but in some parts it rises into sandhills.

On the east of the bay the hills come near the sea in places.

The swampy, jungle-covered country at the head of the Bay, which forms the projecting sea-board of the Ganges delta, is called the **Sundarbans**. It is divided into numerous islands by the rivers and creeks which intersect it in every direction.

The most prominent points on the Bengal coast are **False Point**, and **Point Palmyras** in the Mahanadi delta.

## VI. Land Elevation or Relief.

The greater part of Bengal is low-lying alluvial plain, that is, land made by the mud which has been brought down and spread over the surface of the country by the great rivers. No stones are found except near the hills. The height of the plains above sea-level varies between a few feet in the Sundarbans and 300 feet in the north of Bengal under the Himalaya Where the Ganges enters the Province the general level is still below 200 feet.

In the deltas the river-beds are higher than the surrounding country, and the rivers overflow every rainy season. Many parts of the province outside the actual deltas are subject to dangerous floods after excessive rain.

MOUNTAINS.

Except in the Darjeeling district, Bengal does not extend to the Himalaya, but in that district the mountains rise abruptly from the northern plains, and **Sikkim** is surrounded on three sides by perpetual snow.

**Kanchinjinga**, the third highest mountain in the world, is on the boundary between Sikkim and Nepal.

South of the Ganges and west of its delta the plains gradually merge into the hill country of Orissa and Chota Nagpur, but there is no clearly marked range, and no height exceeding 5000 feet. The highest peak is **Parasnath**, 4480 feet.

The **Rajmahal Hills** are an isolated range, rising to 2000 feet, in South Bihar. The Ganges flows past the northern end of the range, and then east of it to the head of the delta.

## VII. Rivers.

The **Ganges**, with its tributaries and deltaic distributaries, forms the main river-system of the province. It enters Bengal, as a great river navigable by steamers, from the United Provinces. On the south or right bank the Ganges receives the **Son**; on the north or left bank the **Gogra**, the **Gandak**, and the **Kusi**, which have their sources in Tibet, and break through the Himalaya.

> The delta begins 300 miles from the sea, where the Ganges gives off its westernmost distributary, the **Bhagirathi**, called lower down the **Hugli**.
>
> The Hugli receives on its right bank below Calcutta two important rivers the **Damodar** and the **Rupnarain** from Chota Nagpur Between the mouths of these two rivers is formed the "James and Mary" shoal, on which many vessels have been lost The general course of the Hugli is south to the sea at **Saugor Island.**

The rivers of **Orissa** form another important river-system with a common delta. The largest is the **Mahanadi**, and north of it are the **Brahmani** and **Baitarani**, which drain Chota Nagpur and the Orissa hill tracts

> The chief river on the east of the Bay is the **Karnaphuli**, which rises in the hill tracts of Chittagong, and flows past Chittagong to the sea.

## VIII. Climate.

Owing to its position on the seaboard at the head of the Bay Bengal has a damp climate and a heavy rainfall.

> **Patna Division** has the most extreme climate, being the hottest in the hot weather, and one of the coldest in the cold weather.
>
> **Orissa** has the highest temperature in the cold weather.

## IX. Plants and Animals.

The **Plants and Animals** of the province are those of India generally.

> The **tamarisk** and other trees which like a dry climate, do not flourish in Lower Bengal; but damp-loving tropical vegetation is very luxuriant.

## X. People.

POPULATION—

The population is 50,723,000

Bihar is the most thickly populated part of the province. In the west of Chota Nagpur, there are only 20 persons to the square mile.

RACES AND LANGUAGES—

In Bengal Proper the prevailing language is **Bengali**; in Bihar, **Hindi** in various forms; in Orissa, **Uriya.**

RELIGIONS—

Nearly 78 per cent of the people are **Hindus**, and the rest **Muhammadans.**

The Bengalis are the most intellectually advanced of the peoples of India; physically they are less robust than the inhabitants of the provinces farther north-west.

## XI. Products and Industries.

MINERALS—

**Coal**, which is abundant in the neighbourhood of Raniganj, is the most important mineral It is now exported from Calcutta in enormous quantities, chiefly for the use of steamers trading in the East.

Bengal also produces more **iron** than all the rest of India.

**Saltpetre** is an important mineral product in Bihar, where it occurs as a crust on the soil of old villages, and is separated by dissolving it in water

There are **mica** mines in Chota Nagpur.

AGRICULTURAL PRODUCTS—

**Rice** is the staple crop, and is grown all over the province.

**Wheat** and the **millets** are grown in Bihar.

The principal **oil-seed** is **gingelly** or **sesamum.**

**Jute** is a most important and valuable crop in Northern Bengal.

**Tea making** is the great industry of the Darjeeling hills.

**Opium** is a very valuable Government monopoly and is chiefly produced in Patna Division.

**Indigo** is still largely manufactured in Northern Bihar.

**Sugar-cane** and **tobacco** are also largely grown.

## XII. Political Subdivisions and Towns.

### (I) BENGAL PROPER.

**Calcutta**, the capital of the Indian Empire, is the cold-weather seat of the supreme government, and also of the provincial government. It is almost equally distant from Peshawar and from Cape Comorin. It lies about east-south-east from Greenwich, being 4691 miles distant from it in a direct line, and about 8000 miles by sea. Calcutta is situated on the left bank of the Hugli, 86 miles from the sea, and is connected with Howrah on the right bank by a floating bridge.

The population in 1901 was over a million that of Howrah, 158,000.

Calcutta is the first port in India, and owes its importance entirely to its trade. It has water communication with most parts of the province, and with Assam and Burma, and is connected by rail with every part of India. Thus it is a most convenient centre for collecting and distributing merchandise Docks have lately been built.

The city has a good water supply and is a much healthier place than formerly, but the sanitary condition of the native part of town is still bad

Of late years numerous mills- jute, cotton, paper, sugar—have been built on both banks of the river, at and near Calcutta.

The chief exports (in order of value exported) are **jute** (raw and manufactured), **tea, hides** and **skins, opium, rice, oil-seeds, indigo** and **lac**

The chief imports are **cotton goods, metals, machinery** and **mineral oil**

**Alipore**, a suburb of Calcutta, is the residence of the Lieutenant-Governor of the province.

Short lines of railway connect Calcutta with **Budge-Budge**, with **Diamond Harbour** 38 miles down the Hugli, and with **Port Canning** on the Matla, one of the Sundarban rivers.

**Barrackpore**, fifteen miles up the Hugli from Calcutta, is a military station, and the country residence of the Viceroy.

**Murshidabad** (36,000) on the Bhagirathi near the head of the delta, was the last Muhammadan capital.

**Hugli** is on the river 24 miles above Calcutta, and was one of the earliest European settlements in Bengal.

**Chanderpagore**, near Hugli, is the only remaining French possession in Bengal.

**Darjeeling**, situated on a spur of the Himalaya, 7000 feet above the sea, is the great sanatorium of Bengal, and the centre of a thriving tea industry.

### (II.) BIHAR.

**Patna** (135,000), the chief town of the Patna Division, is the second city of Bengal.

Owing to its favourable situation on the Ganges near the mouths of the Son, Gogra, and Gandak, Patna has been of importance from very early times.

The city, with the civil station of **Bankipur** and the cantonment of **Dinapur**, stands on the south bank of the Ganges, 332 miles by rail from Calcutta

**Gaya** (71,000), in South Bihar, is a celebrated place of pilgrimage, and there are many interesting Buddhist remains in the neighbourhood It is connected by railway with Patna, 63 miles to the north.

**Bhagalpur** (75,000) is the chief town of the Bhagalpur Division, on the south bank of the Ganges, 265 miles from Calcutta by railway.

**Monghyr** (36,000) is a picturesquely situated town on the Ganges, west of Bhagalpur, near a low range of hills running towards the river. Guns and pistols of good quality are made here.

Five miles south is **Jamalpur**, where there are large workshops belonging to the East Indian Railway.

### (III.) ORISSA.

**Cuttack** (47,000), the chief town, is situated on the Mahanadi, at the head of the delta, and is now connected with Calcutta and Madras by the East Coast Railway. It is celebrated for its silver filigree work.

**Puri**, on the east coast, 53 miles south of Cuttack, is famous the world over for its temple of Jagannath, to which enormous numbers of pilgrims resort annually.

**Chandbali**, on the most northern channel of the Mahanadi delta, is the port of Orissa.

### (IV.) CHOTA NAGPUR.

**Ranchi** (20,000) is the chief town, 2169 feet above sea-level.

**Hazaribagh** (17,000), at almost the same level, is on the other side of the Damodar Valley.

Coal is largely worked in the plains to the north and east of the plateau, especially at **Giridih**.

### QUESTIONS.

1 Describe the natural divisions of Bengal In what respects are these divisions natural ones?

2. In what part of the Indian Empire is this province situated? How is it placed with regard to the tropics?

3. What is the general aspect of the part of Bengal that belongs to the basin of the Ganges?

4 Describe the country bounding the Ganges Basin on the south.

5. Account for the excessively damp climate of Lower Bengal

6 What are the principal commodities exported from Calcutta? What is given in exchange for them?

7 Describe, as accurately as you can, the position of the following towns, and mention any fact that is noteworthy in connexion with each Nadia, Raniganj, Darjeeling, Gaya, Jamalpur, Cuttack, Ranchi, Patna.

# EASTERN BENGAL AND ASSAM.

## I. Introductory.

This province was constituted in 1905. Assam, a non-regulation province, together with Eastern Bengal, is under the rule of a Lieutenant-Governor. It comprises **Assam Proper** in the north, **Cachar** and **Sylhet** in the south, the hill country between them, and **Bengal** to the east of the Ganges, called **Eastern Bengal**. The Native State of **Manipur** is under the political control of the Lieutenant-Governor.

## II. Geographical Situation.

The province lies to the east of Bengal, between Burma, Bhutan, and Tibet

**Assam Proper** is the upper Brahmaputra valley; **Sylhet** and **Cachar** occupy the valleys of the Surma and Barak; and **Eastern Bengal** is the valley of the lower Brahmaputra.

## III. Size and Shape.

The area of the province is about 101,147 square miles.

## IV. Boundaries.

On the North. Bhutan and Tibet.
On the East: Burma.
On the South Burma and the bay of Bengal
On the West. Bengal.

## V Relief.

The Brahmaputra valley is bounded on the north by the Himalaya. It is long and narrow, averaging 50 miles in width. South of it rise the **Garo, Khasi, Jaintia**, and **Naga** hills, separating it from Sylhet, Cachar, and Manipur. In the north-east the **Patkai range** separates it from Burma

The **Himalaya** ends west of the Brahmaputra, but a snowy range from Tibet comes down to near the Patkai hills

**Sylhet** is a swampy plain, broken by clusters of little hillocks, and largely under water in the rains.

**Cachar** has low hills running north and south, with swamps between them, also under water in the rains.

**Manipur** consists of a central valley about 2500 feet above sea level, surrounded by mountain ranges generally running north and south

## VI. Rivers.

The **Brahmaputra** is formed by several rivers flowing from Tibet in the extreme north of Assam, the largest of which is the **Dihang**. It receives very numerous tributaries on its way through Assam, which is one of the best-watered countries in the world.

The **Barak** rises in Manipur, flows through Cachar, and in Sylhet divides into two branches, the larger of which is called the **Surma**. Both branches flow into the **Meghna**.

The **Brahmaputra** is joined by the Ganges at Goalundo The main channel by which the Ganges-Brahmaputra enter the sea is called the **Meghna** from the river of that name that brings down to it the drainage of Assam.

The **Tista**, after a south-easterly course through Sikkim, joins the Brahmaputra in the north of Eastern Bengal. It formerly flowed into the Ganges.

## VII. Climate.

Owing to the abundance of water the climate of Assam is very damp, and fogs are common in the cold weather. The rains begin early and end late, and there is no extreme heat. The Chittagong division has the most equable climate.

## VIII. Plants and Animals.

PLANTS—

Although outside the tropics, the vegetation is luxuriant and tropical, and Upper Assam is still largely covered with forest or long jungle grass. The sal and the india-rubber tree abound.

The **tea plant** is indigenous.

ANIMALS—

Large wild animals, such as the tiger, elephant, buffalo, rhinoceros, are numerous.

## IX. People.

POPULATION—

The population is about 30¾ millions, of whom 18 millions are Muhammadans and the rest Hindus.

RACES AND LANGUAGES—

The people of Assam are mostly of **Tibeto-Burman** race, but of late years the tea gardens have attracted many immigrants from Bengal.

The prevailing languages in the valleys are **Bengali** and **Assamese,** which is akin to Bengali.

The hill tribes, numbering about a million, are almost savages.

## X. Products and Industries.

The staple industry of the province is **tea,** and its cultivation is extending rapidly. **India-rubber** and **tussar silk** are collected by the hillmen.

**Rice** is the chief food-crop, but not enough is produced for the wants of the province.

**Jute** is a most important and valuable crop in Eastern Bengal.

**Oranges** of good quality are grown and exported from Assam.

**Coal** is worked in the Khasi hills, and Sylhet **lime** is well known for its excellent quality.

## XI. Towns.

**Dacca** (91,000), situated on an offshoot from the Brahmaputra, is the seat of Government and the residence of the Lieut.-Governor. In the seventeenth century it was the Muhammadan capital. It was formerly famous for its muslins.

**Chittagong** (24,000), about twelve miles from the mouth of the Karnaphuli, is a rising port, and is connected by railway with Chandpur on the Meghna, and with the tea-districts of South Assam.

**Sylhet** (14,000), in the district of that name, on the Surma, is the largest town in Assam proper.

**Silchar** (8000), on the Barak, is the chief town in Cachar.

**Gauhati** (11,000), **Sibsagar,** and **Dibrugarh,** all on the south bank of the Brahmaputra, are the chief towns of the Assam valley

**Shillong** (5000), on the Khasi hills, 5000 feet above sea-level, is the summer seat of Government, and the residence of the Lieutenant-Governor in the hot weather.

**Cherrapunji,** thirty miles south of Shillong, has the highest known rainfall.

### QUESTIONS.

1. Describe the natural divisions of the Province How are they situated relatively to one another?

2. Compare the population densities of the Surma and Assam valleys. Why might the Surma valley be considered as more properly belonging to Bengal?

3. Write a short account of the general surface features of Eastern Bengal and Assam. How is the country drained?

4 What is the chief industry of this province? Has it any mineral products?

5. What are the means of communication between Assam and Bengal?

6. Describe accurately the situation of Shillong, Dibrugarh, Gauhati, Sylhet, Dacca, and Chittagong.

## BURMA.

### I. Introductory.

THIS province, which is non-regulation,[1] consists of **Lower Burma** and **Upper Burma.** The latter, which includes the **Shan States,** was annexed in 1886, and placed under the Chief Commissioner of British Burma.

The province was constituted a Lieutenant-Governorship in 1897.

### II. Geographical Situation.

Burma lies on the east side of the Bay of Bengal, and is the north-western portion of the Indo-China peninsula.

It extends farther north than any part of Bengal, and extends south almost to the latitude of the north of Ceylon.

### III. Size.

The area is estimated at 236,700 square miles, which is slightly greater than that of the German Empire.

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[1] See "Indian Empire," § xv.

Its length from north to south is about 1300 miles, and its greatest width from east to west about 550 miles.

## IV. Boundaries.

On the North . China.
On the East : China, French Indo-China, and Siam.
On the South · the Malay peninsula, and the Bay of Bengal.
On the West . the Bay of Bengal, Bengal, and Assam.

## V. Coast.

The coast is about 1200 miles long It is much bolder and more broken than that of India Proper, and has numerous groups of islands lying off it

> **Cape Negrais**, west of the Irawadi delta, is the most marked projection.

## VI. Relief.

The main physical features of Burma are the **Irawadi** and **Chindwin** valleys, lying between extensive tracts of hill country, which consist of parallel ranges running mostly north and south.

A narrow but very fertile strip of plain borders the coasts of **Arakan** and **Tenasserim.**

MOUNTAINS--

The **Arakan Yoma** runs south from the **Blue Mountain** (7100 feet) in the Lushai hills on the southern boundary of Chittagong to Cape Negrais, gradually diminishing in height as it nears the sea.

The **Pegu Yoma** runs south from below Mandalay, forming the water-parting between the Irawadi and the Sittaung rivers. It rises to 2000 feet

> The next range to the east runs south without interruption from the Tibetan plateau to near Moulmein. It forms the water-parting between the Irawadi and the Salwin. In the ruby mines district it rises to 8000 feet, and, on the borders of Lower Burma, to 9000 feet.
>
> There are other parallel ranges farther east, one of which continues as the **Tenasserim Yoma** to the extreme south of the province.

## VII. Rivers.

The **Irawadi** is the great river of Burma, forming a magnificent water-way running through the heart of the country for more than 900 miles, and navigable by steamers almost throughout. Its chief tributary, the **Chindwin**, is also navigable by steamers in the rainy season.

The **Sittaung**, rising in the hill country south-east of Mandalay, is of little use for navigation seawards, owing to the dangerous bore that rushes up it at spring tides.

The **Salwin**, also, is much interrupted by rocks and rapids.

## VII. Climate.

The greater part of Burma is within the tropics. The whole of the coast region has a rainfall of above 100 inches, and the climate is hot and damp. It becomes drier as we go up the Irawadi valley, but in the north, as the hills get higher, the rainfall again increases, and the climate resembles that of Assam.

## IX. Plants and Animals.

Owing to the hot and damp climate the vegetation of Burma is very rich, and **teak** and other timber trees abound. The plants and animals are those of India in general.

## X. People.

POPULATION—

The population in 1902 was over 10½ millions. This is a very small population (44 persons to the square mile) for so large a country, a country which is, notwithstanding the amount of hill and jungle, very fertile.

The result of this small pressure on the soil is that the Burmese are better off than the people of India proper, and get enough food with comparatively little labour.

RACES AND RELIGIONS—

The natives of Burma are nearly all of **Tibeto-Burman** race, and the prevailing religion is **Buddhism.**

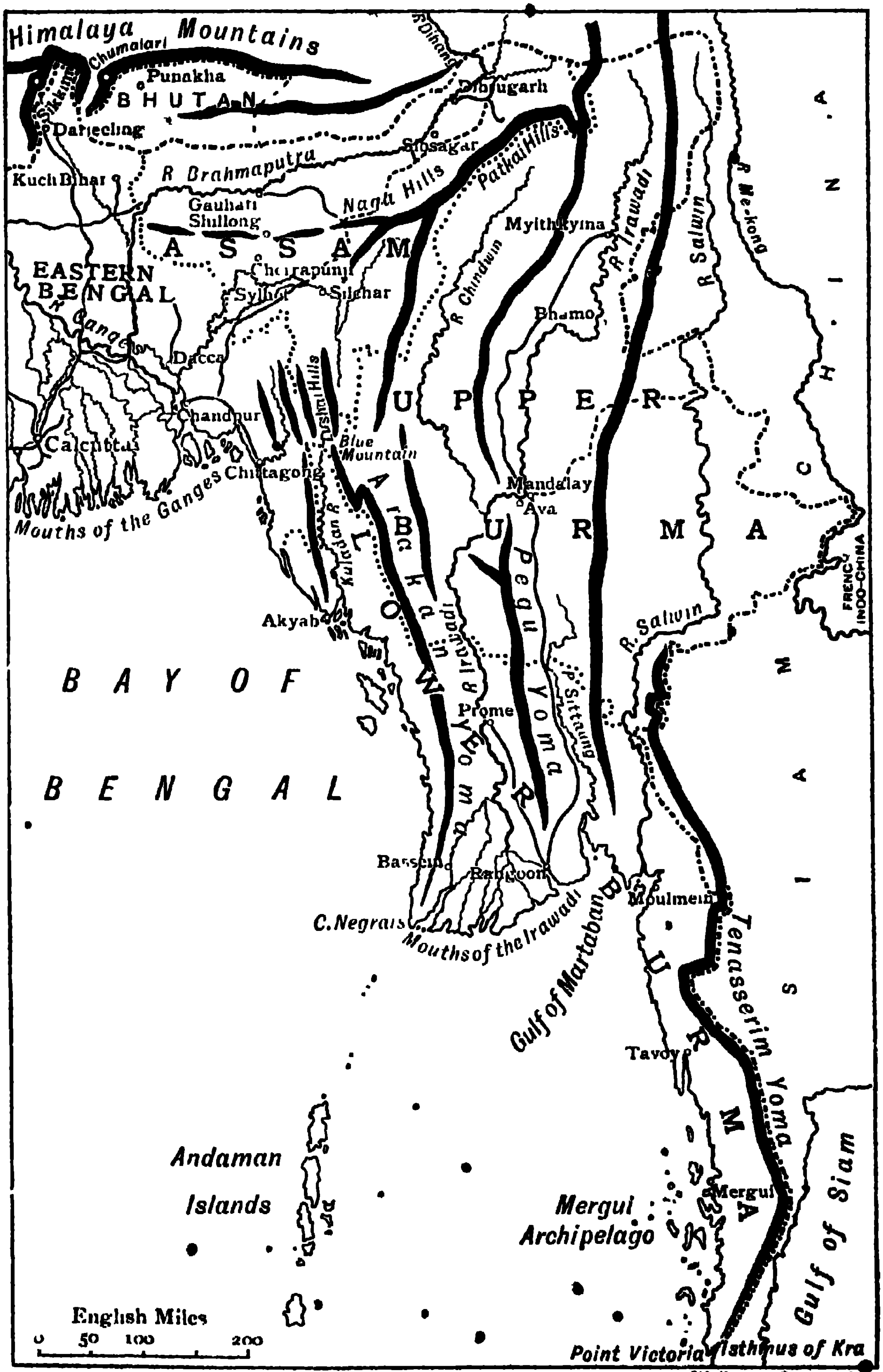
## XI. Products and Industries.

MINERALS—

The **ruby mines** in the hills north of Mandalay were famous, but are no longer very profitable.

**Jade** mines and **amber** mines are worked between the Chindwin and Irawadi rivers in the extreme north.

**Petroleum** is a product of commercial value in the Irawadi valley.



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**Coal** is found in the Chindwin valley, and white **marble** is quarried near Mandalay.

**Tin** is worked in Tenasserim.

VEGETABLE PRODUCTS—

**Rice** is the staple crop in the plains, and in the deltas the crops are enormous. Famine never occurs.

**Cotton** is also grown, and, in Upper Burma, **maize, millets** and **pulses,** and **sesamum.**

**Teak** wood is a valuable export.

INDUSTRIES—

**Silks** and **cigars** are the chief manufactures.

There are numerous steam **rice-husking** and **timber-sawing** mills.
The Burmese excel in **wood-carving.**

### (I.) LOWER BURMA.

**Rangoon** (232,000), the capital of Burma, is situated 21 miles from the sea on the Rangoon river, which is connected with the Irawadi. It is now the third port of the Indian Empire.

**Rice** and **teak** are the chief exports, and there are large rice mills.

The Golden Pagoda, 320 feet high, is the most famous shrine in Burma.

The population of Rangoon is very mixed. Burmese form less than half the total population; the rest are Hindus, Muhammadans, Sikhs, Jains, Parsis, and others.

Most of the trade of the place is in the hands of these foreigners.

**Prome** (30,000), on the left bank of the Irawadi, above the head of the delta, is the terminus of a railway from Rangoon.

**Bassein** (30,000), situated on both sides of the Bassein river, the westernmost distributary of the Irawadi, is about 80 miles from the sea. It is accessible to large steamers, and there is a great export of rice.

**Moulmein** (56,000), is situated at the mouth of the Salwin, where it divides into two estuaries. It has a great trade in **teak,** which is floated down the rivers to the port.

**Tavoy** and **Mergui** are less important ports lower down the peninsula.

**Akyab** (38,000), is situated on the north of the estuary of the **Kuladan River,** which flows from the Arakan hill tracts. The chief trade is in rice.

### (II.) UPPER BURMA.

**Mandalay** (182,000), until 1887 the capital of royal Burma, is situated on the left bank of the Irawadi, 386 miles by rail from Rangoon. The original city—a square surrounded by a wall which measures a mile each way—is now the British cantonment. The native town is outside the walls.

**Ava,** an older capital, is about 15 miles lower down the river.

**Bhamo,** 200 miles above Mandalay, is the starting point of the trade route to China.

QUESTIONS.

1. What is meant by saying that Burma is a non-regulation province?

2. What is its geographical situation, and how does it compare in size with the other provinces of the empire?

3 What do you know of Cape Negrais, the Kra Isthmus, the Pegu Yoma, the Salwin, Ava, the Kuladan River, and the Shan States?

4 What is the general direction of the rivers of Burma? Why is this? Which of them are useful for navigation?

5. What are the two most valuable vegetable products of Burma? What minerals are found?

6. Can you account for the present small population of Burma? In what respects do the people differ from the great majority of the inhabitants of India?

7 Describe the situation and chief trade of the following towns: Rangoon, Bassein, Moulmein, and Akyab. What do you know of Mandalay?

## THE UNITED PROVINCES OF AGRA AND OUDH.

### I. Introductory.

This portion of India includes nearly the whole of the country which was called by the Muhammadans **Hindustan.** Until 1902 this division of British territory was called "The North-West Provinces and Oudh." These provinces ceased to be the North-West Provinces of British India when the Punjab was annexed in 1849. The Provinces of Agra and Oudh, and the attached Native States now form a single province, under the rule of a Lieutenant-Governor.

### II. Geographical Situation.

The province occupies the upper basin of the Ganges and its tributaries, and is the central province of Northern India. It is entirely outside the tropics.

### III. Size.

The area, including the Native States of **Kumaun** and **Garhwal,** is 105,000 square miles

The greatest length from north-west to south-east is about 500 miles; the greatest width about 300 miles.

## IV. Boundaries

On the North : Tibet and Nepal.
On the East : Bengal.
On the South : Central India.
On the West . Rajputana and the Punjab

## V. Relief.

Nearly the whole of the province is alluvial plain which has been formed by the Ganges and its tributaries. The greater part of the country is now above the reach of floods.

The plains rise gradually from about 220 feet above sea-level in the south-east, to 900 feet in the north-west

The Nepal *tarai* separates the province from the Himalaya along the greater portion of its northern boundary

MOUNTAINS—

A section of the **Himalaya** between the west of Nepal and the Punjab is included in the province, and forms the boundary between it and Tibet.

The **Siwaliks** are a low range of hills, not rising above 2000 feet, which run parallel to the base of the Himalaya, and contain flat valleys called *duns*

In the south-east the **Kaimur Hills**, bordering the valley of the Son, extend into the province.

## VI. Rivers.

The **Jumna** rises in the **Jumnotri** glacier, flows past the northern end of the Siwaliks, and then southwards across the plains, forming the boundary between the United Provinces and the Punjab. Near Agra it turns south-east, and keeping near the southern boundary of the province joins the Ganges at Allahabad. It receives the **Betwa** from Central India.

The **Ganges** rises in the **Gangotri** glacier, and breaks through the Siwaliks at Hardwar. It flows through the middle of the province, and enters Bengal at its junction with the Gogra.

**Hardwar**, and the source of the Ganges in the Gangotri glacier, are famous places of pilgrimage. Between these two places the river is called the **Bhagirathi**.

The country between the Ganges and the Jumna is called the **Doab.**[1]

The **Gogra** rises beyond the Himalaya in Tibet, and when it enters the plains is a larger river than the Ganges at Hardwar. It flows south-east, and joins the Ganges on the borders of Bengal.

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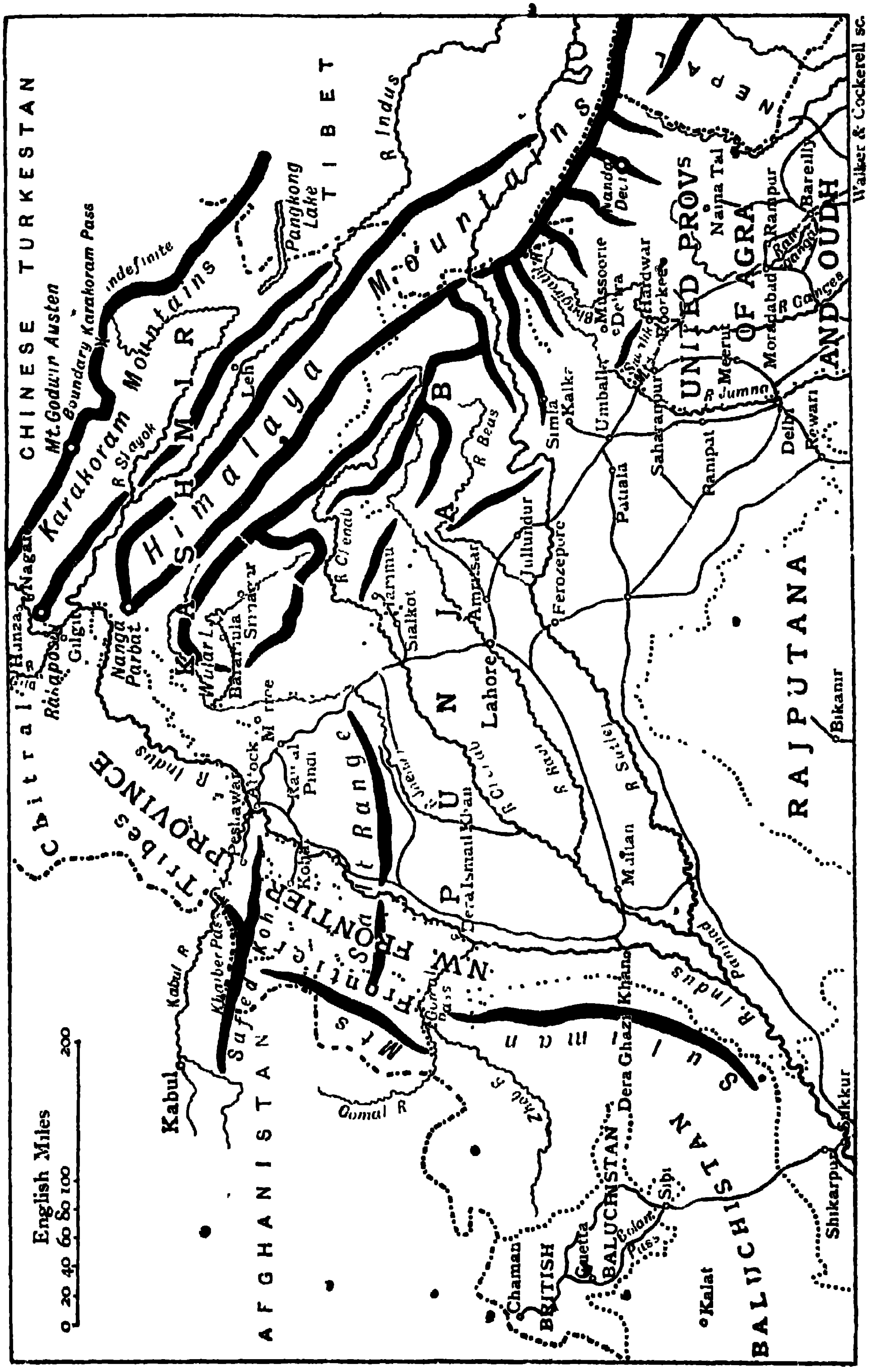
[1] Doab = "two rivers."



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The **Gumti**, which has its origin in the plains near the Nepal frontier, and joins the Ganges below Benares, flows between the Gogra and the Ganges.

## VII. Climate.

The climate is intermediate between that of Bengal and the Punjab, being most extreme at Agra.

The average rainfall of the province varies from 36 inches at Agra and Muttra to 48 inches at Gorakhpur.

## VIII. People.

POPULATION—

The population in 1901 was 47½ millions, rather more than that of the German Empire

The province is, after Bengal, the most densely populated part of India, having 433 persons to the square mile. It has seven towns with a population exceeding 100,000. No other province has so many large towns.

RACE AND LANGUAGE—

**Hindus** form the great majority of the population, and the prevailing language is **Hindi.**

## IX. Products and Industries.

The plains are, except in a few tracts of low rainfall, very fertile, and a great system of irrigation canals distributes the water of the Ganges and the Jumna over the parts of the province that cannot be irrigated directly from the rivers.

**Wheat, barley, grain,** are the chief cold weather crops, and wheat is largely exported.

**Rice** is grown in the rains in low-lying country.

Other crops are the **millets** and **linseed.**

**Cotton** is grown in the southern districts.

**Tea** is a thriving industry in the *duns* and lower Himalaya.

MANUFACTURES—

The manufactures are chiefly those of articles for local use, but Benares brass-ware is well known.

**Cawnpore is an important industrial centre of recent growth.**

## X. Towns.

**Allahabad** (175,000), the capital of the province, is only the fourth city in point of size, being smaller than Lucknow, Benares, and Cawnpore. It is situated between the Ganges and Jumna, just above their point of junction, 564 miles by rail from Calcutta, and is an important railway centre. The fort dates from Akbar's time.

**Benares** (219,000), on the left bank of the Ganges below Allahabad, is the second city of the province, and the most sacred city of Hinduism.

**Cawnpore** (197,000), is on the right bank of the Ganges, 46 miles south-west of Lucknow, and 120 miles north-west of Allahabad. Its importance is due to its grain trade, and to its large manufactures of leather and cotton cloth.

**Agra** (188,000), on the south bank of the Jumna, the capital of India in the times of Akbar and Shah Jahan, has, in the Taj Mahal, the mausoleum of Shah Jahan, one of the most perfect pieces of architecture in the world.

**Bareilly** (117,000), the largest town of Rokikand, is situated on the Ramganga, a tributary of the Ganges.

**Meerut** (119,000), midway between the Ganges and the Jumna, and 40 miles north-east of Delhi, is the chief military cantonment of the province.

**Mirzapur** (80,000) on the Ganges, between Benares and Allahabad, is the centre of the cotton trade with Central India.

**Moradabad** (75,000), on the Ramganga, is celebrated for its brass-ware.

**Aligarh** (70,000), north of Agra, has an important Muhammadan college.

**Muttra** (60,000), on the south bank of the Jumna, between Delhi and Agra, is celebrated for its Hindoo architecture.

**Jhansi** (55,000), in the south of the province, is an important railway centre.

**Naini Tal** is a hill station situated at the head of a small lake, 6409 feet above sea-level. It is the hot weather seat of the provincial government.

**Dehra**, in the *dun* of that name, is the centre of a tea industry.

**Mussoorie** overlooks the Dehra Dun, and is, with the adjoining military sanatorium of **Landaur**, the chief hill-station of the province. It is nearly 7000 feet above sea level.

**Roorkee**, near Hardwar, at the head of the Ganges canal, has the chief engineering college of India.

**Lucknow** (264,000), the largest city in the province, and the capital of Oudh, is situated on the Gumti in the middle of the division. It has some very fine Muhammadan buildings. Gold and silver ornaments are made.

**Fyzabad** (74,000), on the Gogra, is the chief town of Fyzabad Division, and a military station.

QUESTIONS.

1. What part of Northern India is included in this province? Why was its name changed from "The North-West Provinces and Oudh"?

2. What parts of the province do not belong to the 'plains' proper?

3. What becomes ultimately of all the drainage of the province? Describe the chief rivers.

4. "The climate is most extreme at Agra" What does this mean?

5. Compare the population density of this province with that of Burma. What is the language of the people?

6. Mention some of the principal products. What are the chief food crops? Which is the chief industrial centre?

7. Where and what are Nanda Devi, Kumaun, the Tarai, Dehra Dun, the Siwaliks, the Doab, Hardwar, Moghal Sarai, Roorkee, Meerut, Muttra, Bareilly, Naini Tal, Rampur, Mussoorie?

8. Describe the four largest cities of the province.

## THE PUNJAB.

### I. Introductory.

THIS province owes its name (*Panj* = five; *áb* = water) to the five great tributaries of the Indus which divide the greater part of the province east of the Indus into *Doabs*. (*Do* = two; *áb* = water.) It includes Patiala, and many other native states.

### II. Geographical Situation.

The Punjab lies well outside the tropics, and its southernmost point does not reach farther south than Sikkim, which is the most northerly part of Bengal.

### III. Size.

The area of the province is 97,000 square miles, of which 22,509 square miles belong to native states.

Its length, from north-east to south-west, is 530 miles, and from north-west to south-east, 560 miles.

### IV. Boundaries.

On the North : Tibet and Kashmir.
On the East ; the United Provinces and Tibet.

On the South · Bombay and Rajputana.

On the West and North-West . Baluchistan and the North West Frontier Province.

## V. Relief

Nearly three-quarters of the province belongs to the great alluvial plain of Northern India.

The highest portion of this plain is the borderland between the Punjab and the United Provinces, and there is a gradual rise from the Bay of Bengal up to this point, from which there is a gradual fall towards the Indus

The plains, therefore, have a slight slope to the west and south, and accordingly we find that. whilst the rivers of the United Provinces flow south-east, those of the Punjab flow south-west. In fact the borderland between the two provinces is the **water-parting** of the Ganges and Indus systems

MOUNTAINS—

In the north-east the province includes a section of the **Himalaya** which is continuous with that included in the United Provinces. The general direction of the range is from south-east to north-west

The **Salt Range,** rising to 5000 feet, has a westerly direction across the plains between the Jhelum and the Indus

The country between the Salt Range and the Himalaya is a tableland rising to 2000 feet.

Hence the Punjab comprises four natural divisions ·

The table-land in the north-west cut off by the Salt Range.
The Himalayan tract in the north and north-east.
The eastern plains
The western plains, or the *Doabs*.

## VI. Rivers.

The **Indus** forms part of the western boundary. From the Attock gorge to where it leaves the Salt Range, about 150 miles, its current is very rapid, and navigation is difficult. Its course is generally south, changing to south-west as it nears the borders of Sind.

From the Punjab it receives no large river until, in the south of the province, the **Panjnad** joins it, bringing down the waters of the five rivers : the **Jhelum** and **Chenab** from Kashmir, the **Ravi** and **Beas** from the Himalayan portion of the province and the **Sutlej,** the largest of the five, from Tibet.

The whole drainage of the province goes to the Indus, except a little which finds its way to the Jumna on the east, and some which loses itself in the Rajputana desert in the south.

## VII. Climate.

The climate of the Punjab is extreme, the shade temperature sometimes reaching 120° in May, and falling to the freezing point in December.

There are two well-marked seasons of rainfall. the monsoon proper, and the winter rains early in January The annual rainfall decreases from 35 inches near the Himalaya, to 5 or 6 inches in the neighbourhood of Multan

## VIII. People.

POPULATION—

The population in 1901 was over 20 millions.

The density of population is greatest in the north and east, where it rises to nearly 400 persons to the square mile. In the arid tract to the south-west it falls to less than 50 persons per square mile.

On the whole the province is not thickly populated compared with the rest of India.

LANGUAGE—

The prevailing language is **Punjabi.**

## IX. Products and Industries.

The eastern plains are the most fertile part of the province.

The *Doabs*, except the low-lying strips bordering the rivers, can only be cultivated by artificial irrigation, and the area irrigated by canals is greater than in any other province. But large tracts are as yet out of the reach of irrigation canals, and portions are permanently barren owing to the saltness or sandiness of the soil.

The most important crop is **wheat**, which is largely exported. Other important crops are **barley**, the **millets**, **pulses**, **cotton**, **rice**, and **oil seeds.**

**Tea** is grown in the Himalayan tract, chiefly in the Kangra valley.

MINERALS—

In the Salt Range are some of the largest **salt mines in the world.**

**Coal** is also worked.

## X. Towns.

**Lahore** (120,000), the capital of the province, but the second city in point of size, is situated a little south of the Ravi. It contains the palace and tomb of Ranjit Singh, the founder of the Sikh dynasty. It is an important railway centre

**Delhi** (208,000), on the right or west bank of the Jumna, was the last Muhammadan capital of India. It is surrounded by the ruins of former capitals.

There is a considerable manufacture of carpets and pottery.

**Amritsar** (162,000), the sacred city of the Sikhs, situated in the middle of the *doab* between the Ravi and the Beas, is the centre of a shawl and carpet industry

**Umballa** (79,000) is a very large military cantonment.

**Panipat**, between Delhi and Umballa, is famous for battles which decided the fate of India.

**Multan** (75,000), near the Chenab, in the south west of the province, is celebrated for its pottery

**Rawal Pindi** (74,000) is a great arsenal and military station. It is the starting point of one of the chief routes into Kashmir

**Murree**, in the Himalaya above Rawal Pindi, is a large hill station, 7000 feet above sea-level.

**Jullundur** (66,000), and Ludhiana are also military cantonments.

**Patiala** (56,000) is the capital of Patiala State, and the largest town in the native states of the province

**Sialkot** (55,000), north of Lahore, is connected by railway with **Jammu** in Kashmir, and is a large cantonment

**Dera Ghazi Khan** (28,000), on the west of the Indus, opposite the terminus of a branch of the Indus Valley Railway, is an important crossing station

**Simla**, on one of the outer Himalayan spurs, 7200 feet above sea-level, is the hot-weather seat of the Provincial Government, and also of the Government of India

### QUESTIONS.

1. How did this province get its name? Describe its geographical situation, and compare its area with that of Madras and Assam

2. What are the natural divisions of the Punjab? How does its main watershed slope?

3. Describe the river system of the Punjab

4. What are the special features of the climate of this province?

5. Why is artificial irrigation of such importance in this province? What are the chief crops? What is the principal mineral product?

6. Describe the situation of the following towns, and mention any noteworthy facts in connection with them Delhi, Simla, Lahore, Amritsar, Multan, Rawal Pindi, Sialkot, Peshawar.

7. What and where are the Salt Range, the Panjnad, Attock, Umballa, Panipat, Jullundur, Murree, the Khaiber, Patiala?

## THE NORTH-WEST FRONTIER PROVINCE.

THIS new province is in size 16,400 square miles It comprises the districts on the west of the Indus as far south as Dera Ismail Khan, which formerly belonged to the Punjab, the frontier agencies of **Dir, Swat,** and **Chitral,** north of the Kabul River, and the **Khyber, Kurram, Tochi,** and **Wana** agencies, south of it

The inhabitants mainly belong to the various tribes of hillmen, known collectively as **Pathans**, whose home is in the wild mountain valleys near the north-west frontier. They are Muhammadans, and a lawless and turbulent race.

**Peshawar** (84,000), the capital of the province, connected with the Punjab by a railway which crosses the Indus at Attock, is the great frontier town on the way to the Kyber Pass and Kabul. It has a busy trade and is held by a strong garrison.

**Dera Ismail Khan**, on the Indus in the south of the province, is a crossing place on the way to the Gomal Pass

**Chitral**, in the extreme north, is well known for the siege it sustained in a recent frontier war.

## KASHMIR

### I. Introductory.

THE name Kashmir formerly applied only to the celebrated **Vale of Kashmir**, the summer resort of the Mughal emperors, but it now includes the whole territory ruled by the Maharaja.

### II. Geographical Situation.

The state lies north of the Punjab, and forms the most northerly portion of the Indian Empire, reaching up to the Pamir plateau.

### III. Size.

Its area is 81,000 square miles. Its length from north to south is about 310 miles, and from east to west about 400 miles.

### IV. Boundaries.

On the North : the Pamir plateau and Chinese Turkestan.
On the East : Tibet.
On the South : the North-West Provinces and the Punjab.
On the West : the Punjab and the north-west frontier tracts.

## V. Relief.

Kashmir is a land of mountains and valleys No country in the world has such a number of lofty snow-clad peaks, or such vast glaciers. It contains the whole of the north-western section of the **Himalaya**, which extends north and north-west to the Indus, and consists of two main ranges: one south of the central valley, and one to the north-east of it. Near the Indus **Nanga Parbat** marks the end of the range.

Beyond the Indus rises a range separating it from the **River Shayok**, and, still farther north, the **Karakoram Range**, over which is the famous **Karakoram Pass**, 18,000 feet high, the trade route to Chinese Turkestan. **Mount Godwin-Austin**, the second highest peak in the world, occupies the middle of the range.

The central valley, the Vale of Kashmir, is about 80 miles long, from 20 to 25 miles broad, and between 5000 and 6000 feet above sea level.

## VI. Rivers.

The **Indus** enters Kashmir from Tibet, flows north-west, separating the Himalaya from the ranges farther north, turns sharply south at the end of the Himalaya, and then enters the borderland between India and Afghanistan. In its course through Kashmir it falls from nearly 14,000 feet to 4,000 feet.

Its chief tributary is the **Shayok**, which drains the ranges of the north-east.

The **Jhelum** rises in the Kashmir valley, flows north-west through the valley, then turns south-west, breaks through the Himalaya, and finally enters the Punjab near the Salt Range. In its course through the Kashmir valley it flows through the shallow **Wular Lake**, the largest fresh-water lake in India.[1]

The **Chenab** flows across the south of the state into the Punjab.

## VII. Climate.

The climate of the central valley is proverbially pleasant; free from extremes of either heat or cold. The mountain country in the north and east is geographically a part of Tibet, and has a similar climate: dry and very extreme.

**Fruit** and **flowers** in great profusion flourish in the mild climate of the Vale

In the northern mountain-country vegetation is scanty.

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[1] The Pangkong Lakes, 14,000 feet above sea-level, are larger, but are partly in East Kashmir and partly in West Tibet.

## VIII. People.

POPULATION—

The population in 1901 was nearly 3 millions.

RACES AND RELIGIONS—

In the north and east of the state the people are of **Mongolian** race, and are either **Buddhists** or **Muhammadans**

The **Kashmiris** (the people of the central valley) are mostly Muhammadans, and the **Dogras** (the inhabitants of the outer hills) are mostly Hindus.

## IX. Products and Industries.

The crops are the same as in the Punjab.

Kashmir used to be famous for its **shawls**, which were made from the fine wool of the Tibetan goats The industry is now almost extinct, but a considerable quantity of plain cloth called *pashmina*, made from the same material mixed with camel s hair, is manufactured

There is also a considerable **carpet** industry.

The **copper-work** of Srinagar is excellent.

## X. Trade and Commerce.

Kashmir has a considerable trade with the Punjab, exporting **grain, timber, shawls** and **cloth, fruit,** and **ghi,** and importing **cotton piece-goods** and **sugar**.

## XI. Government and Towns.

The state is ruled by a Maharaja of Rajput family. The present dynasty dates from the annexation of the Punjab The Government of India is represented by a Resident.

**Srinagar** (122,000), the capital, and the summer residence of the Maharaja, is situated near the middle of the Kashmir valley, on the Jhelum, at an altitude of 5200 feet.

**Jammu** (34,000), is situated at the foot of the Himalaya, about 25 miles north-east of Sialkot, with which it is connected by railway.

**Leh**, on the north bank of the Indus in upper Kashmir, is an important trade centre on the road to the Karakoram Pass and Chinese Turkestan. It is 11,500 feet above sea-level.

**Gilgit** is a frontier outpost and British Agency in the valley of the Gilgit River, about 4900 feet above sea-level.

### QUESTIONS.

1. Up to what parallel of north latitude does Kashmir extend? Through what European countries does this parallel pass?

2. What mountain ranges occupy the country? What separates the one system from the other? What is the Vale of Kashmir?
3. What is the effect of altitude on the climate of the country?
4. Name the industries for which Kashmir is noted
5. What do you know of the Karakoram Pass, the Wular Lake, the Dogras, Pashmina, Jammu, Leh, and Gilgit.

## BALUCHISTAN.

### I. Introductory.

This province comprises the territory subject to the **Khan of Kalat.** and the district of **British Baluchistan.**

### II. Geographical Situation.

It is situated south of Afghanistan, and is the most westerly part of the Indian Empire.

### III. Size and Shape.

Its area is 153,784 square miles Its length from east to west is about 500 miles, and its breadth from north to south about 400 miles.

### IV. Boundaries.

On the North Afghanistan and the frontier tracts west of the Indus
On the East · the frontier tracts and Bombay.
On the South . the Arabian Sea.
On the West . Persia.

### V. Relief.

The greater part of the province belongs to the Iranian plateau, of which it forms the south-eastern portion It is highest in the east, terminating in the **Suliman Mountains** and other ranges running south to the coast.

### VI. Climate.

The whole country is very dry, being outside the reach of the monsoons. The chief rainfall is in the winter. Hence cultivation is only possible by means of irrigation, and a large part of the interior is desert. The climate is extreme, snow often falling in winter. The tract traversed by the railway from the banks of the Indus to the foot of the Bolan Pass is, in the hot season, the hottest part of India.

## VII. People.

POPULATION—

The population is estimated at 500,000, all Muhammadans.

## VIII. Products.

**Petroleum** is found, but not in large quantities.
The usual crops are grown where water can be had.
**Fruit** of many kinds grows well.

## IX. Animals.

**Camels** are the usual beasts of burden, and are largely bred in the country.

## X. Government and Towns.

The **Khan of Kalat,** feudatory to the Government of India, is the ruler of an area of 145,356 square miles.

**Kalat,** the capital, is situated about 6000 feet above sea-level, 84 miles south of Quetta.

**British Baluchistan** (area, 8428 miles) is the north-western portion of the province Through it runs the railway to the frontier at Chaman.

**Quetta,** the chief station, and the residence of the Chief-Commissioner, is 5500 feet above sea-level, and is situated in a valley surrounded by high mountains, 28 miles from the northern end of the Bolan Pass. It is a very important military station.

QUESTIONS.

1. What part of the Indian Empire is included in Baluchistan? Compare its dimensions with those of other divisions of the Empire.
2. How does its geography distinguish it from the rest of India?
3. What is the nature of the climate? How does this affect the food supply of the country, and, in consequence, the population?
4. How is Baluchistan connected with India, and with Afghanistan?
5. Where are Sukkur, Kalat, Quetta, Chaman, the Bolan Pass?

## RAJPUTANA.

## I. Introductory.

This province (the country of the **Rajputs**) comprises twenty **Native States,** having political relations with the Government of India, and the British district of **Ajmere.** Most of the native rulers are Rajputs of very ancient lineage.

The principal Native States are Udaipur or Meywar, Jodhpur, Bikanir, Jaipur, and Jaisalmir.

## II. Geographical Situation.

The province lies exactly south of the Punjab, and in the extreme south projects into the tropics.

## III Size and Shape.

Its area is 128,022 square miles, so that it is a little smaller than the Punjab.

In shape it may be roughly described as a square with one of its angles projecting into the Punjab.

## IV. Boundaries.

On the North · the Punjab.
On the East the United Provinces and Central India.
On the South Central India and Bombay.
On the West . The Sind division of Bombay

## V. Relief.

The province is divided into two parts of unequal size by the **Aravalli Hills,** which run from the south-western boundary north-east through the province, the range becoming less marked as it approaches the north-eastern boundary. It never exceeds 3000 feet, though **Mount Abu,** a detached hill near the southern extremity of the range, rises to 5650 feet.

The larger part of Rajputana north-west of the Aravallis is a great plain, with occasional sand-hills, or low rocky hills.

The strip along the north-western boundary is called the **Thar,** or **Great Indian Desert** It affords a grazing ground for great herds of camels, cattle, sheep, and goats

East of the Aravallis the country is a table-land, which is mostly cultivated, and in the south-western portion, where it is well-watered, very fertile.

## VI. Rivers and Lakes.

RIVERS—

The only river of importance in western Rajputana is the **Luni,** which is salt. It rises in the Aravallis near Ajmere, and flows south-west into the Rann of Cutch.

East of the Aravallis the country slopes north-east and the drainage takes this direction, most of the streams finding their way to the **Chambal**, the largest river of Rajputana. This river rises in Central India, flows across the south-eastern portion of the province, and then along the boundary between Rajputana and Central India for 130 miles. It finally joins the Jumna below Agra, after a course of 560 miles.

LAKES—

The **Sambhar Salt Lake**, west of Jaipur, receives the drainage of a portion of the Aravallis north of Ajmere.

## VII Climate.

The greater part of the province has a rainfall of between 10 and 30 inches per annum. In the north-west it falls below 10, and in the south-east it rises to above 30 inches. The climate is on the whole dry, and in the north-west very extreme.

## VIII. People.

POPULATION—

The population in 1901 was nearly 10 millions, of which the great majority were Hindus

RACES—

The **Rajputs** form only a small minority of the Hindu population.

LANGUAGES—

The prevailing languages are dialects of Hindi.

## IX. Products and Industries.

Rajputana is not an agricultural province Owing to want of water two crops cannot be grown annually, except in the east and south.

Large quantities of **salt** are manufactured at the Sambhar lake and near the Luni.

## X. Animals.

The western districts are famous for their breeds of **camels**, and supply the neighbouring provinces with them.

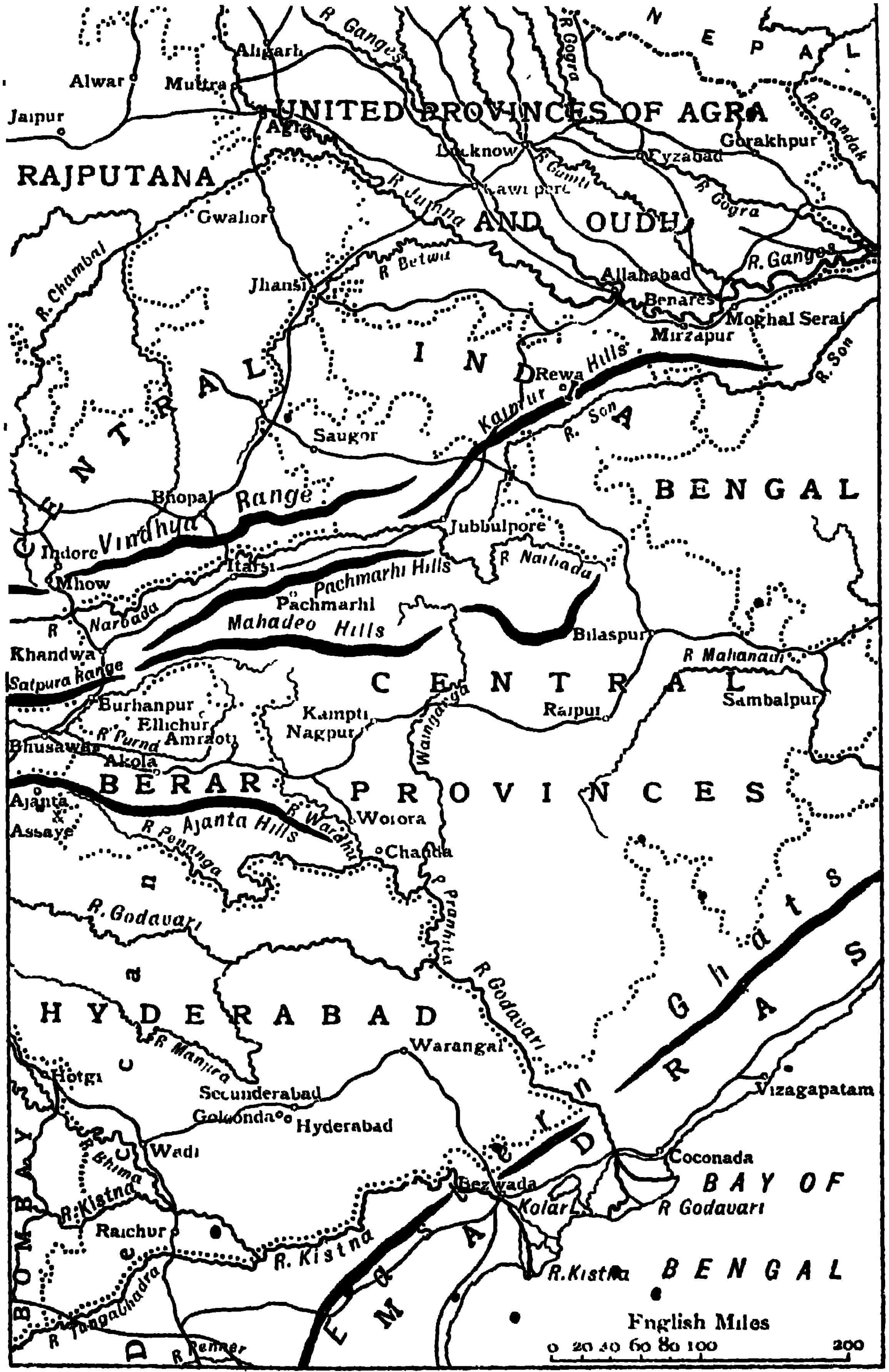
## XI. Towns.

**Udaipur** (45,000) is picturesquely situated, on a ridge above an artificial lake.

**Chitor** is a former capital of Udaipur State, and a historic fortress.

**Jodhpur** (61,000) is a strongly-walled city in the desert.

**Bikanir** (53,000) is a walled city in a dreary plain.



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**Jaipur** (159,000), and the largest city in Rajputana, is a modern city well laid out with spacious streets.

**Jaisalmir** (11,000), the capital, is a strongly-walled town.

**Ajmere** (69,000) is the residence of the British Agent for the province. The fortress of Taragarh overlooks the town.

**Mount Abu** is a sanatorium on the hill of that name, 3945 feet above sea-level.

### QUESTIONS.

1. What is Rajputana? In what part of India is it situated?
2. Describe the natural divisions of the country.
3. Describe the river system. To what great river basin does the country east of the main water-parting belong?
4. Where and what are Mount Abu, Chitor, the Luni, the Thar, Ajmere, the Aravallis?

## CENTRAL INDIA.

### I. Introductory.

CENTRAL INDIA is a collection of no less than 143 **Native States,** ranging in size from **Gwalior,** with an area of nearly 30,000 square miles, to petty states with only a few square miles of territory. Out of the total number 124 have an area of less than 500 square miles.

Most of the western part of the province belonged to the ancient kingdom of **Malwa**

### II. Geographical Situation.

Central India lies on the northern border of Peninsular India, and the Tropic of Cancer cuts it nearly in half.

### III. Size and Shape.

Its area is about 79,000 square miles.

In shape it is most irregular. It stretches across India for nearly 600 miles, and consists of two distinct portions, a western and an eastern, a strip of the United Provinces and the northern part of the Central Provinces separating them.

The western division of the province contains the large and important states of **Gwalior** in the north, **Bhopal** in the south-east, and **Indore** in the south-west.

The eastern division of the province comprises the two large tracts of **Bundelkhand** in the west and **Baghelkhand** in the east, both containing a number of native states, of which the largest is **Rewa.**

## IV. Boundaries.

On the North : Rajputana and the United Provinces.
On the East : Bengal and the Central Provinces.
On the South : the Central Provinces and Bombay.
On the West : Bombay and Rajputana.

## V. Relief.

The height of the country varies from 600 to 2000 feet, the general slope being towards the north and north-east. The higher portion of the tableland lying to the north of the Vindhya Range is called the **Malwa Plateau.**

The province forms part of the Ganges basin, and all the drainage finds its way to the Jumna or the Son except the little that is carried off by the Narbada in the south.

MOUNTAINS—

The **Vindhya Hills** run near the southern border of the western division of the province, marking the northern limit of the Narbada valley

A short section of the **Satpura Range** in the extreme south of the province borders the Narbada valley on the south

The **Kaimur Hills** run north-east across the eastern division of the province, cutting off the valley of the Son from the main basin of the Ganges.

## VI. Rivers.

The **Narbada** rises in the **Amarkantak** plateau in the extreme south of the eastern division of the province, and flows across the Central Provinces to the western division of the province, of which it forms the boundary for about 150 miles. It then flows straight across the south of the province into the province of Bombay.

The **Son** rises near the Narbada, and flows north to the Kaimur Hills. It then turns north-east and flows along the foot of the range into Bengal.

The **Chambal** rises in the Vindhyas, and flows north through the western portion of the province into Rajputana. After crossing south-east Rajputana it forms the boundary between that province and Central India until it enters the United Provinces.

## VII. Climate.

The annual rainfall ranges from 30 to 50 inches, rising to over 50 inches in the south-east. There are no winter rains.

In the North the climate resembles that of the neighbouring districts of Rajputana and the United Provinces. Farther south, partly owing to its greater elevation, the climate is less extreme.

## VIII. People.

POPULATION—

The population in 1901 was 8½ millions.

RELIGION, RACES, AND LANGUAGES—

**Hindus** form the large majority of the population.

Nearly two millions are of aboriginal race, chiefly **Gonds** and **Bhils.** They are chiefly found in the Satpura and other hill tracts.

The prevailing languages are dialects of Hindi.

## IX. Products.

MINERALS—

There are extensive **coal-fields** in the east of the province, but hitherto they have been little worked.

**Iron** is also found in many parts.

CROPS—

Most of the land is very fertile, and is well cultivated, especially in the north-west.

Besides the usual crops, **tobacco** is much grown, and **opium,** known as Malwa opium, is largely produced in Indore and the neighbouring districts.

## X. Towns.

**Gwalior** (104,000), the capital, the largest town in Central India, lies under the east side of the great rock on which the fortress stands.

**Indore** (92,000), the capital, and the residence of the British Agent, is situated north of the Vindhya range, nearly 1800 feet above sea-level.

**Mhow** (32,000), 13 miles south-west of Indore, is the chief military station in Central India.

**Bhopal** (70,000) is a walled city, north of the Vindhya range, about 1700 feet above sea-level.

**Rewa** (24,000), situated north of the Kaimur range, is the largest town in Baghelkhand.

### QUESTIONS.

1. Central India and Rajputana together form an almost unbroken area of territory under native rule. Compare the size of this tract with that of the largest British provinces.

2. Name the principal mountains and rivers of Central India. What range forms the water-parting between the Ganges basin and the basin of the Narbada?

3 Mention the leading native states; say where they are situated; and name their capitals.

4. What do you know of Malwa, Amarkantak, the Chambal, Bandelkhand, the Kamur Hills? What water-parting or divide is the Kamur Hills?

## CENTRAL PROVINCES

### I. Introductory.

THESE non-regulation provinces, which are under a Chief Commissioner, comprise nearly the whole of ancient **Ghondwana**—the country of the aboriginal Ghond kingdoms- but no part of the Deccan proper. They are almost entirely surrounded by territory under native rule Until the railway was made through them they were the least known part of India.

The country of **Berar** has lately been put under the government of the Central Provinces, being leased to the British government in perpetuity by the Nizam of Hyderabad

### II. Geographical Situation.

The Central Provinces occupy a great tract of country in the centre of the peninsula. The tropic of Cancer passes through them in the extreme north.

### III. Size and Shape.

They are a little smaller than the United Provinces, their area being 100,396 square miles, including Berar.

The extreme length from north to south is 500 miles, and the breadth from east to west 600 miles

In shape they resemble Rajputana, but are more oblong than square.

### IV. Boundaries.

On the North: Central India and Bengal.
On the East · Bengal and Madras.
On the South . Madras and Hyderabad.
On the West: Bombay and Central India.

### V. Relief.

The level of the country only falls below 600 feet in the lower basins of the Narbada, the Godavari, and the Mahanadi rivers.

The **Satpura Range**, starting from the lofty plateau of Amarkantak at the source of the Narbada, runs in a westerly direction for about 600 miles, dividing the province into two parts. It reaches its greatest height, 4500 feet, in the **Pachmarhi** hills.

North of the range is the rich valley of the Narbada, a depression in a wide tract of hilly tableland

In the north-east a mountainous tract separates the central basin of the Mahanadi from Bengal, and, in the south, the province is shut in by a wide stretch of hill country extending from the Bay of Bengal to the Godavari. From the Godavari basin there is a gradual rise towards Nagpur.

## VI. Rivers.

The **Narbada** flows across the northern part of the province.

The **Mahanadi** rises in the wild mountains at the south of Chhattisgarh, flows generally north-east, and, after a tortuous course through the eastern portion of the province, strikes across Orissa to the Bay of Bengal.

The **Wainganga** rises in the **Seoni** plateau of the Satpura range, and, after a winding course among the hills, flows south to its junction with the Wardha on the south-west border.

The **Wardha** rises in the Satpuras north west of Nagpur, and flows along the south-west boundary of the province to its junction with the Wainganga.

The two rivers form the **Pranhita**, which continues to mark the boundary of the province until it joins the Godavari.

All these rivers have very rapid courses, and, though they are navigable for long distances in the rains, they generally become fordable in the hot season.

## VII Climate.

In the west and south the annual rainfall is less than 30 inches; in the centre and east it is between 30 and 50 inches.

In the higher parts of the country the heat is not extreme, and in the rainy season the climate is not unpleasant; but in the Nagpur plain the summer heat is excessive

## VIII. Plants and Animals.

Two-thirds of the Central Provinces are still jungle.

**Teak** and **sal** are the principal timber trees.

Wild animals abound.

## IX. People.

POPULATION--

The population in 1900 was nearly 12 millions.

RACES AND RELIGIONS—

**Hindus** form about four-fifths of the whole population, and about one-fifth are of aboriginal race, mostly **Gonds.** This comparatively large proportion is due to the fact that the Satpura range formed the first real obstacle to immigrant races pressing south, and the aboriginal races were able to hold their own in these forest-clad mountain wilds.

Most of the people of this race are **Animists.**

LANGUAGE --

The prevailing language of the province is **Hindi,** but **Marathi, Uriya,** and **Gondi** are also spoken.

## X. Products and Industries.

**Stick-lac** and **tussar silk** are collected in the jungles in large quantities

The parts of the country under cultivation are fertile.

**Wheat, rice,** and **cotton** are produced in large crops.

**Pulses** and **oil-seeds** are also important crops

**Wheat** and **cotton** are chiefly grown in the northern and western parts

**Rice** is grown in the basins of the Mahanadi and Wainganga.

**Coal** is worked at two places in the province, and there are a number of **cotton mills.**

## XI Towns.

**Nagpur** (125,000), the capital and largest town of the Central Provinces, is situated in the north-west of the division, 759 miles from Calcutta by the Bengal-Nagpur Railway

**Kampti** (43,000), nine miles north-east, is the chief military station of the province.

**Jubbulpore** (90,000), situated 1306 feet above sea level north of the Satpuras, is an important railway-centre. The **Narbada** flows through a gorge of marble rocks nine miles to the west.

**Saugor** (45,000), on the Vindhya plateau north of the Narbada, is a large cantonment 109 miles north-west of Jubbulpore.

**Burhanpur** (32,000), on the north bank of the Tapti, was formerly famous for its manufactures of silk and gold thread.

**Khandwa** (16,000), is an important station on the Great Indian Peninsula Railway. The metre-gauge Rajputana-Malwa Railway runs north from here into Central India.

**Pachmarhi,** in the **Mahadeo Hills** of the Satpura range, 3500 feet above the sea, is the sanatorium of the province, and the hot-weather seat of the Government.

**Raipur** (31,000), is the largest town and a station on the Bengal-Nagpur Railway, 180 miles east of Nagpur. It is situated in a fertile plain, and is an important trade-centre

**Chanda** (16,000), near the south-west border, an ancient capital of the Gonds, is surrounded by a stone-wall, 5½ miles in circuit.

### QUESTIONS.

1. What proportion of the whole population belongs to aboriginal races in the Central Provinces and Central India?
2. Describe the general geographical features of the province. What is the water-parting between the basins of the Mahanadi and the Son?
3. What becomes of the rain which falls in different parts of the province? Mark upon a sketch map the several river basins.
4. Describe accurately the situation of Nagpur, Jubbulpore, Chanda, Raipur, Pachmarhi, Saugor, and Khandwa, and mention anything noteworthy in connection with each.

## BOMBAY.

### I. Introductory.

This province takes its name from the small island on which the city of Bombay now stands, which was ceded to England in 1661 as part of the dowry of Katherine of Braganza More than one-third of the area of the province belongs to native states, of which the largest are **Baroda, Khairpur,** and **Cutch.** The Portuguese territory of **Goa** is included within its boundaries.

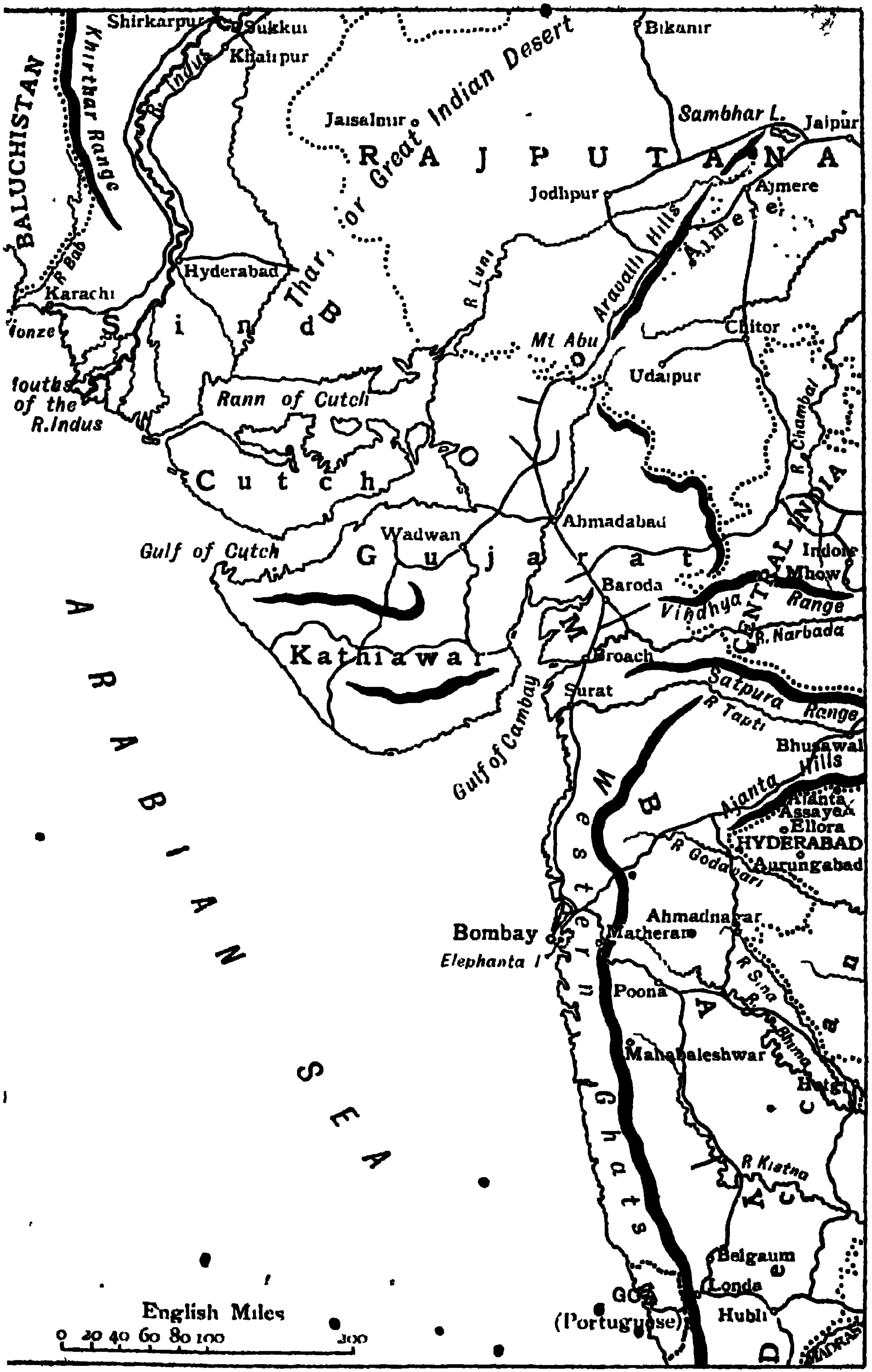
### II Geographical Situation.

The province consists of a long strip of land along the western sea-board of Peninsular India, and of the lower basin of the Indus with its delta. Only Sind and the north of Cutch with the adjacent mainland are outside the tropics.

### III. Size and Shape.

The area of Bombay is about 123,000 square miles.

It extends over more degrees of latitude than any other province, Burma excepted. It is more than a thousand miles in length from north to south, but its breadth never exceeds 300 miles.



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## IV. Boundaries.

On the North: Baluchistan and the Punjab.

On the East: Rajputana, Central India, the Central Provinces, Berar, Hyderabad, and Madras.

On the South. Mysore and Madras.

On the West: the Arabian Sea.

## V. Coast.

The coast-line extends from the Mysore boundary to **Cape Monze**, which is separated from Baluchistan by the **River Bab**.

The gulfs of **Cambay** and **Cutch** are the only openings of any size, and the greatest projection is the **Kathiawar Peninsula**, which lies between them.

## VI. Relief.

The surface features of the province are very varied In the north, in Sind, the low-lying Indus delta is surrounded by an arid country resembling the adjacent desert tracts of Rajputana, the Punjab, and Baluchistan.

South of Sind are the plains of **Cutch** and **Kathiawar**, broken by rugged hills; while the adjoining mainland is alluvial plain extending to the hills of the Central India This part of the province is called **Gujarat**.

Farther south the province has two distinct natural divisions: the rugged and hilly coast-strip called, as far as North Kanara, the **Konkan**, and the western **Deccan** above it

MOUNTAINS—

The **Khirthar Range** runs between Sind and Baluchistan, rising in the north to upwards of 4000 feet.

The **Mewar** and **Malwa** Ghats mark the border between the province and Rajputana and Central India

The long range of the **Western Ghats** runs from the Tapti to the south of the peninsula, generally parallel to the coast The average height is about 3000 feet, rising in places to over 4000 feet.

## VII. Rivers.

The lower parts of the courses of the **Indus**, the **Narbada**, and the **Tapti** are in the province.

The **Indus** enters Sind from the Punjab as a great river, several miles across when in flood. It gives off its first deltaic distributary above Sukkur, and enters the sea by many mouths, none of which are navigable by sea-going steamers.

The **Narbada** can be navigated by small sea-going ships up to Broach, 30 miles from the sea.

The **Tapti** flows across the province on the high alluvial plain south of the western portion of the Satpura range, descends to the lower plain of Gujarat, and enters the Gulf of Cambay.

The largest rivers of the Deccan are the **Godavari** and **Kistna**, which rise in the Western Ghats

The **Bhima**, and its tributary the **Sina**, are important feeders of the Kistna. The Bhima has the greater part of its course within the province.

## VIII. Climate.

The climates of the province illustrate the effect of rainfall and elevation.

The **Konkan** tracts below the Ghats, with a rainfall of over 100 inches, have a warm, moist, and uniform climate.

The **Deccan** above, with an elevation of about 2000 feet, and a rainfall of under 50 inches, has a dry and extreme climate, though the heat is to some extent tempered by the elevation

In **Sind**, which is low, and has a rainfall of less than ten inches, the heat is excessive, and, owing to its position in the north of the province, the cold weather is more severe.

**Upper Sind** has the most extreme climate in India

## IX. Plants and Animals.

PLANTS—

There are valuable forests of **babul** and **sisu** along the banks of the Indus in Sind, and **teak** is abundant in the Western Ghats.

ANIMALS—

The **maneless lion** of Gujarat is peculiar to the province ; so also is the **wild ass** found in the sandy deserts of Cutch and Upper Sind.

## X. People.

POPULATION—

The population in 1902 was 18½ millions. The desert portions of Sind are very scantily populated.

RACES AND RELIGIONS—

The great mass of the people are **Hindus**. Only in Sind do Muhammadans form the majority.

The **Parsis**, a small but intelligent and enterprising community of Persian origin, number about 90,000, and of this number nearly 50,000 are in Bombay city.

LANGUAGES—

The prevailing language in the Deccan and Konkan is **Marathi.**

## XI. Products and Industries.

The chief food crops of the province are **millets**, **rice** in the low-lying and moist Konkan, **wheat** and **barley** in Gujarat and Sind.

**Cotton** is very largely grown in the inland districts, and furnishes the great industry of the province Not only is raw material exported in large quantities, but there are numerous spinning and weaving mills.

There is also a considerable manufacture of **silk** fabrics and **paper.**

## XII. Towns.

**Bombay** (982,000), the capital of the province, and the second city and seaport in the Indian Empire, is situated on a small island artificially connected with other islands and the mainland. Its magnificent harbour, its complete connexion by railway with other parts of India, and its nearness to Europe, have combined to make it one of the greatest ports in the east, especially for foreign trade It also has a great cotton industry, and is a busy manufacturing town as well as a port. It is pre-eminent among Indian cities for the magnificence of its modern public buildings.

On the island of **Elephanta** in the harbour are the famous cave temples.

Bombay is 1400 miles from Calcutta *via* Jubbulpore, and 1279 miles *via* Nagpur.

**Poona** (111,000), the former capital of the Mahratta rulers, and the present hot weather seat of Government, is situated on the Deccan, at a height of 1800 feet, 119 miles south-east from Bombay. It is a large military station.

**Ahmadabad** (148,000), once the splendid capital of the Muhammadan state of Gujarat, is a picturesque walled city on the Sabarmati, north of the Gulf of Cambay.

**Surat** (118,000) is on the Tapti estuary, 14 miles from the sea. It was once the chief port in India, and was the first English settlement

**Karachi** (115,000), the capital of Sind, and the sea-port of North-Western India, is situated between the south-west corner of the delta and Cape Monze. It is now the fifth port in India, and has a great trade in wheat.

**Baroda** (116,000), the capital of Baroda Native State, is situated near the head of the Gulf of Cambay.

**Hubli** (58,000), an important junction on the Southern Mahratta railway, is the centre of the cotton trade

**Hyderabad** (58,000), the former capital of Sind, is situated three miles from the left bank of the Indus.

**Ahmadnagar** (42,000), north-east of Poona, on the Sina, was a former Muhammadan capital.

**Shirkarpur** (42,000) is the chief town of Upper Sind, and the headquarters of the trade through the Bolan Pass.

**Broach** (42,000), on the Narbada estuary, is an unimportant trading town.

**Belgaum** (26,000), 2500 feet above sea level, and 20 miles inland from the Ghats, is a military station.

**Mahabaleshwar** is the principal hill station of the province, and is situated in the Ghats, at a height of 4540 feet. It has a rainfall of nearly 300 inches.

**Matheran**, below the Bore Ghat, is another hill station at an elevation of 2200 feet.

### QUESTIONS.

1. How did the province get its name? Compare it with Burma in regard to situation, and the distribution of its territory in relation to the sea
2. What are the natural divisions of the province?
3. What ranges of hills mark the change from the low-lying coast plains to the plateaux of the interior?
4. What river basins are comprised wholly or partially within the province. To what seas do they carry the drainage of the land?
5. What different climates are found in the Bombay Presidency?
6. What is the chief industry of the province?
7. Give some account of Bombay city, Karachi, Poona, Surat, Goa, Baroda, Belgaum, and Ahmadabad.
8. What do you know of Cutch, Gujarat, Mahabaleshwar, Hyderabad, the Sina, the Konkan, Kathiawar, Cape Monze, the Kirthar Range?

## HYDERABAD.

### I. Introductory.

THIS is the premier Muhammadan state of the Empire, ruled over by the **Nizam**. It is the largest of the Feudatory States.

### II. Geographical Situation.

It is situated in the heart of Peninsular India.

## III. Size and Shape.

The area is 82,698 square miles, a little more than that of Kashmir.

Its length from north to south is about 400 miles, and from east to west about 350 miles.

## IV. Boundaries.

On the North : Bombay, Berar, and the Central Provinces
On the East : Central Provinces and Madras
On the South . Madras.
On the West : Bombay.

## V Relief.

The state is entirely situated on the Deccan tableland, and has an average elevation of 1250 feet above sea-level, with a slope towards the east.

The hills are merely risings from the general level of the tableland, and the most prominent are the Ajanta Ghats in the north-west on the borders of Bombay

## VI. Rivers.

The **Godavari** flows across the northern portion of the state, receiving the **Manjira** from the south It then forms the north-east boundary until it enters Madras.

The **Kistna** flows across the south-west of the state, receiving the **Bhima**, an important tributary from the north.

Another great tributary, the **Tungabhadra**, forms the southern boundary of the state, and the Kistna, below the junction of the two rivers, continues to mark the boundary until it enters Madras.

## VII. Climate

The climate is dry, the rainfall being everywhere less than 50 inches, and in the south less than 30 inches. The elevation of the country above sea level moderates the heat, but, owing to its southerly latitude, it is never very cold.

## VIII. People.

POPULATION AND RELIGION—

The population in 1901 was 11 millions, of whom the great majority were **Muhammadans**

LANGUAGE—

The prevailing languages are **Telegu** in the east and south, **Marathi** in the north-west, and **Kanarese** in the south-west.

## IX. Products and Industries.

There are large **coalfields** along the north-east border in the Godavari valley, which are worked at **Singareni**, where iron is also found.

Some **diamonds** are found in the Kistna Valley.

The most important crop is **cotton.** **Oil-seeds** are also largely grown.

## X. Towns.

**Hyderabad** (446,000), the capital, is, with Secunderabad, the fourth city in India, and is situated 2024 feet above sea-level, 389 miles north west of Madras, 449 miles south-east of Bombay, and 962 miles south-west of Calcutta

The inhabitants are of many races, and go about armed.

**Secunderabad**, on higher ground, six miles north east of the city, is the largest military station in India.

**Golconda**, lying seven miles west, is an old capital, once famous for its trade in diamonds.

**Aurungabad** (26,000), in the north-west, near the Ajanta Hills, is another old capital.

In the district are the famous caves of **Ellora**, the Buddhist caves and rock temples of **Ajanta**, and the battlefield of **Assaye**.

# BERAR.

## I. Introductory.

THIS province was formerly a part of Hyderabad, but was ceded in 1853. It is now under the Chief Commissioner of the Central Provinces.

## II. Geographical Situation and Size.

It lies immediately north of the Nizam's dominions, and south and west of the Central Provinces. On the west it touches Bombay.

Its area is 17,718 square miles.

## III. Relief.

The elevation varies from 800 feet in the rich valley of the Purna, to 1200 feet on the southern tableland.

## IV. Rivers.

The drainage flows partly to the **Purna**, a tributary of the Tapti, partly to the **Wardha**, which flows along the north-east boundary, and partly to the **Penganga**, a tributary of the Wardha, which forms the greater part of the southern boundary. In the north branches of the **Satpura Range** shut in the province, and in the south an extension of the **Ajanta Hills.**

## V. Climate.

The climate is like that of Hyderabad.

## VI. People.

POPULATION AND RELIGION—

The population in 1901 was nearly three millions, the great majority being **Hindus.**

LANGUAGE—

The prevailing language is **Marathi.**

## VII. Products and Industries.

The chief crops are **cotton, millets,** and **oil-seeds,** and agriculture and trade have developed greatly under British administration.

## VIII Towns.

**Ellichpur** (36,000) is the largest town.

**Amraoti** (34,000) is a great cotton mart. A branch line connects it with the Great Indian Peninsula Railway.

**Akola** (21,000) is an important town on the main line of railway.

QUESTIONS.

1. Describe the geographical situation of Hyderabad and Berar. Why is it correct to describe the country as a table-land?
2. Draw a sketch map of Hyderabad and Berar, and mark upon it the courses of the principal rivers and their tributaries What parts of the courses of these rivers are included in the two provinces?
3. Name the most valuable crops. What mineral products are noteworthy?
4. Where are Hyderabad city, Aurungabad, Assaye, Amraoti, Singareni, Ellichpur, and Ajanta? Mention anything noteworthy in connection with each.

# MADRAS.

## I. Introductory.

The Presidency of Madras or **Fort St. George** was established in 1653, the trading settlements in Bengal being under its control. It is the oldest British province.

## II. Geographical Situation.

Madras occupies the whole of the east coast south of Orissa, the whole of the west coast south of Bombay, and the interior of the peninsula south of Kistna and its tributary the Tungabhadra, with the exception of Mysore and Coorg

It reaches its most northerly point on the borders of Bengal, and runs considerably farther south than any other province.

## III Size

The area is about 142,000 square miles, so that it ranks as the second province in size.

Its extreme length is about 950 miles, its breadth varies from 60 miles up to about 450 miles.

## IV. Boundaries

On the North Bombay, Mysore, Hyderabad, the Central Provinces, and Bengal

On the East · the Bay of Bengal.

On the South . Palk Strait and the Gulf of Manaar.

On the West the Arabian Sea.

## V. Coast.

The coast of the province is about 1700 miles long, and it has not a single good harbour.

The **Coromandel coast** is generally low

The **Malabar coast** is more broken, and has lines of lagoons extending from Cochin almost to Cape Comorin, which are largely used for navigation.

## VI. Relief.

The triangular plateau of Peninsular India narrows to its vertex in the south of the province, and, in the latitude of Madras, land which is upwards of 2000 feet in height occupies the greater part of the peninsula.

The plains of the **Carnatic** on the east coast vary in width from 30 to 80 miles.

The coast strip on the west of the central plateau is much narrower, and resembles the Konkan of Bombay.

MOUNTAINS—

The **Western Ghats** enter the province from Bombay, and run to the **Palghat gap**, an extraordinary break of 25 miles in an otherwise continuous range, and thence on to near Cape Comorin.

North of the Palghat gap they expand into the **Nilgiri Hills,** whose highest point is **Dodabetta** (8640 feet), and south of the gap into the **Anamalai Hills,** in which **Anamudi** (8850 feet) is the highest point in the peninsula. Farther south-east, are the **Palni Hills.**

The portion of the range in Travancore is sometimes called the **Cardamom Hills.**

The Western Ghats are a true water-parting, and are broken through by no large river. They are precipitous on the western side, and are clothed with forests of bamboo and timber trees.

The **Eastern Ghats** run south-west from the Bengal frontier to beyond the Kistna; they then run south until near Madras, and afterwards again run south-west to their junction with the Nilgiris.

The Eastern Ghats have a less average height than the Western Ghats, and, as they are pierced by the larger rivers of the province, which rise in the Western Ghats, they are not a true water-parting.

The **Shevaroy Hills** are an outlying range branching southwards from the Eastern Ghats

## VII. Rivers and Lakes.

RIVERS—

The chief rivers are the **Godavari, Kistna, Penner, Palar, Ponniar, Kavari,** and **Vaigai.**

The **Godavari** enters the province from Hyderabad and the Central Provinces, and becomes deltaic near Rajamahendri.

The **Kistna** is the boundary between Madras and Hyderabad for about 180 miles. It then enters the plains of the province, and becomes deltaic below Bezwada.

The **Penner** rises in the north-east of Mysore and, after breaking through the Eastern Ghats, flows east across the plains to the sea below Nellore.

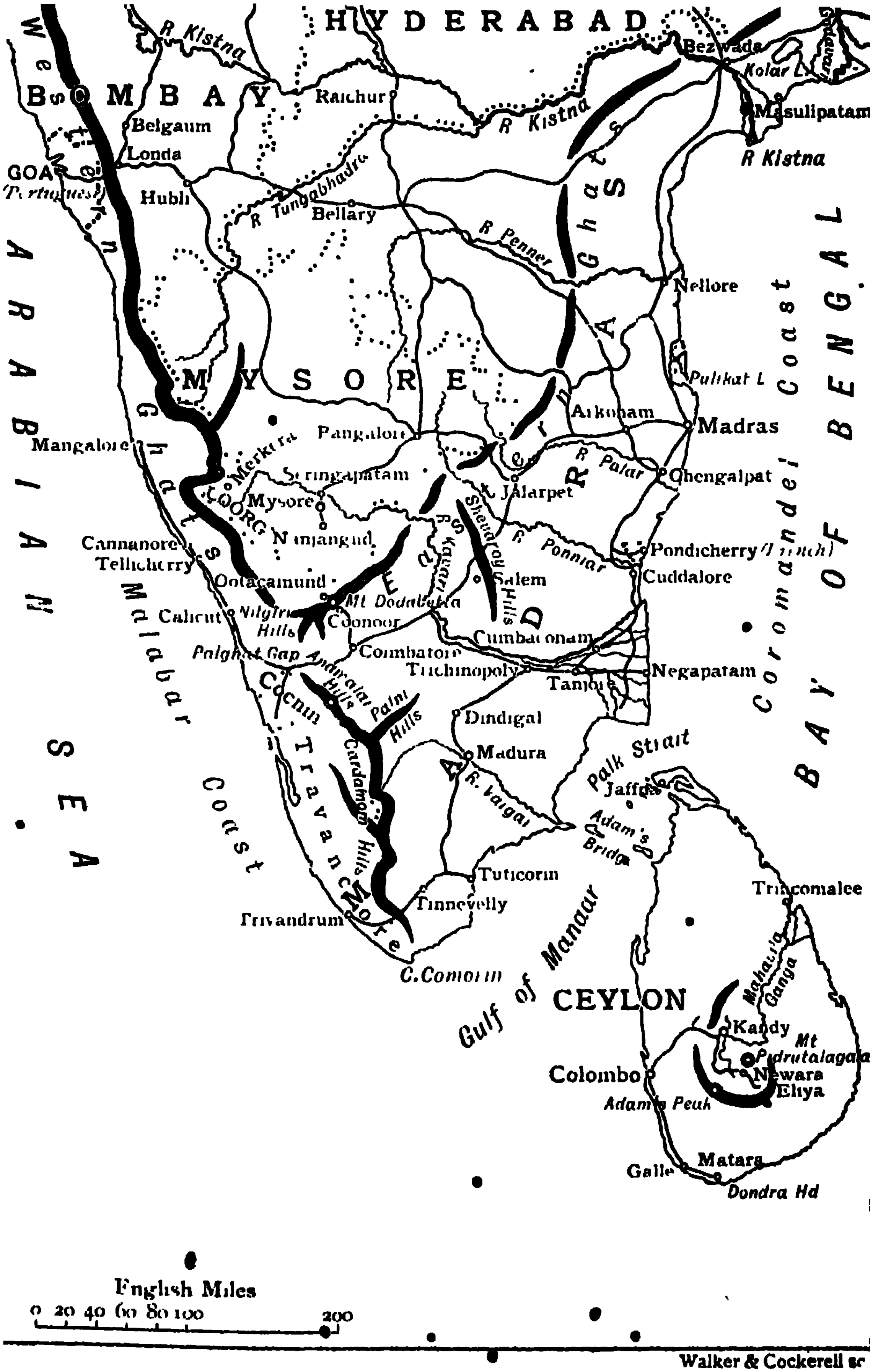
The **Palar** rises near the Penner, and flows past Arcot and Chengalpat into the sea south of Madras

The **Ponniar** also rises in the east of Mysore, and enters the sea by a small delta between Pondicherry and Cuddalore.

The **Kavari** rises in Coorg, flows across Mysore, and forms a large delta which occupies most of Tanjore district.

The **Vaigai** rises in the hills of Travancore, drains the southern slopes of the Palni hills, and flows into Palk Strait.

All these rivers have had masonry dams or *anicuts* built across them to divert their waters into the irrigation canals which traverse the plains of the east coast, and protect the province from famine in years of bad rainfall.



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LAKES—

The **Kolar Lake** fills a depression between the deltas of the Godavari and Kistna.

The **Chilka Lake** on the borders of Orissa, and the **Pulikat Lake,** north of Madras city, are lagoons almost completely cut off from the sea by sand banks.

## VIII. Climate.

Owing to its lower latitude the climate of the province is more uniformly hot than that of other parts of India, but it is not extreme. If it has not the bracing cold of the north-west it never has its fiery heat.

RAINFALL —

The rainfall on the Malabar coast exceeds 100 inches, and the climate is exceedingly moist.

The rest of the province has an annual rainfall of between 30 and 50 inches

The northern and western districts receive most of their rain during the south-west monsoon ,

The districts of the Carnatic receive most of their rain during the so-called north-east monsoon in the later months of the year.

The climate of the plateau is much drier than that of the plains in general, because the Western Ghats stop most of the south-west monsoon, and the Eastern Ghats most of the north-east monsoon.

## IX. People.

POPULATION—

The population is about 38 millions In density of population Madras ranks third among the provinces of India, coming after Bengal and the United Provinces

The density is greatest in Tanjore in the Kavari delta, where it exceeds 600 persons per square mile.

RACES AND RELIGIONS —

The great mass of the population is **Hindu.** There are less than three million Muhammadans, and over one million Christians.

LANGUAGES—

The prevailing languages are :

**Telugu** in the north-east, and **Tamil** in the south-east.

## X. Products and Industries.

The province is essentially agricultural. It is poor on the whole in mineral wealth, and has no great manufacturing industries.

**Iron ores** of good quality are found in several parts; also **corundum** and **mica.** Gold mines are being worked at a profit in the Wynaad plateau in the Western Ghats

The chief crops are the **millets, rice, oil-seeds**, **cotton, sugar-cane**, and **spices** of various kinds. **Tobacco** of excellent quality is grown, and there is a considerable cigar industry. **Tea, coffee, indigo**, and **cinchona** are also cultivated.

## XI. Towns.

**Madras** (509,000), the capital of the province, and the third city in India, stands facing the sea on the low Carnatic coast It has fine public buildings, which line the beach, and an artificial harbour which facilitates trade, though it is unsafe in violent storms

Madras is the seat of the local government for part of the year, and has a university, and an astronomical observatory.

As the longitude of Madras is about midway between those of the eastern and western limits of India, Madras time, which is thirty-three minutes behind Calcutta time, and thirty minutes in advance of Bombay time, is taken as the standard time for India

As a commercial centre Madras is a long way behind Bombay and Calcutta, and both Rangoon and Karachi have about the same amount of foreign trade.

The most important exports from Madras are **hides** and **skins, coffee, cotton**, **rice**, **indigo**, **oil-seeds** and **oils**, **spices**, **tea** and **tobacco.**

**Trichinopoly** (105,000) is the second town of the province. It is situated on the south bank of the Kavari, at the head of the delta, and has a temple-crowned rock in the middle of the city. It is a large military cantonment, and is famous for its cigars and jewellery.

**Madura** (105,000) is the third town of the province. It is on the Vaigai, and has a famous temple.

**Dindigal**, on the railway north of Madura, is the centre of a tobacco and cigar industry.

**Salem** (70,000) is the centre of a weaving industry, and excellent steel is made from the iron ore of the district. It is situated on the Madras Railway, south of the Shevaroy hills, on which are coffee plantations.

**Calicut** (76,000), which gave the name "calico" to cotton cloth, is the largest town on the Malabar coast, and the terminus of the Madras Railway.

**Mangalore** (44,000), **Cannanore**, and **Tellicherry** are also ports on this coast.

**Negapatam** (56,000) is the port of the Kaveri delta.

**Tanjore** (58,000), in the heart of the delta, has a splendid temple. It was the capital of an ancient Hindu dynasty.

**Cumbaconam** (60,000), in the delta, north-east of Tanjore, is an ancient and learned city.

**Bellary** (57,000), in the north-west, is the largest town. It has a fort on an isolated rock, and is a large military station.

**Coimbatore** (53,000) is on the branch line running to the foot of the Nilgiris.

On the Nilgiri plateau are the well-known hill-stations of **Ootacamund**, 7271 feet, and **Coonoor**, 6000 feet, also numerous tea, coffee, and cinchona plantations. Ootacamund is the summer seat of the Madras Government.

**Gopalpur, Vizagapatam, Coconada** (48,000), **Masulipatam** (39,000), are minor ports on the east coast, and **Bezwada** is a rising railway town on the East-Coast Railway.

**Trivandrum** (28,000) is the largest town and capital of Travancore State.

**Tuticorin** (25,000) a rising port, with a steamer service with Ceylon, and **Tinnevelly** (25,000), are termini of the South Indian Railway.

### QUESTIONS.

1. What part of the Indian sea board does Madras Presidency occupy? How many times larger than England is it?

2. Describe the *natural* boundaries of the province

3. Draw a sketch map of Madras, and mark upon it the main water-partings, the courses of the principal rivers, and the lakes.

4. Explain how it is that rain is brought to this province by both the south-west and north-east monsoon. What parts have least rainfall, and why?

5. Name the industries of the province? Where are tea and coffee grown?

6. What are the means of communication between the east and west coasts of the province? How is Madras city connected with Bombay, with the south of the peninsula, and with Bengal?

7. Arrange the following towns in order of size, describe their situation, and mention everything of importance in connection with each:—Salem, Trivandrum, Calicut, Madura, Tuticorin, Trichinopoly, Madras, Tanjore, Bellary, Negapatam.

8. What are the Carnatic, the Vaigai, the Wynaad, Anamudi, the Coromandel Coast, the Chilka, Coonoor, Cochin, Dodabetta, Dindigal?

# MYSORE.

## I. Introductory.

THIS is a native state in direct political relation with the Government of India, which is represented by a British Resident who is also Commissioner of the adjoining British district of Coorg.

## II. Geographical Situation.

It is situated at the southern extremity of the central plateau of the peninsula, which here reaches its greatest height The Eastern and Western Ghats converge in the Nilgiris, and the plateau which occupies the angle between them, north of the Nilgiris, is Mysore.

## III Boundaries and Size

Mysore is surrounded on all sides by the province of Madras, except in the north-west, where it touches Bombay, and along a small portion of its western border, where it touches Coorg

Its area is nearly 30,000 square miles.

## IV. Relief and Climate.

The surface of the country varies between 2000 and 3000 feet in height. The northern portion drains to the **Tungabhadra**, the eastern portion to the **Penner, Palar**, and **Ponniar**, and the southern portion to the **Kavari.**

The hill country bordering on the Western Ghats, called the **Malnad,** is well wooded, and has a good rainfall. The more open country east of the Malnad, called the **Maidan,** is much drier, and is liable to famine whenever the rainfall of Southern India is deficient.

The climate of Mysore is moderated by its elevation, and in many parts it is agreeably temperate.

> A striking feature of the Maidan is the numerous isolated rocky hills called **droogs**, often used as hill-forts in the troubled times of the last century.

## V Products.

The staple food crop is **ragi,** a small millet ; other crops are **rice, sugar-cane, tobacco,** and **cotton** in the north ; **coffee** in the Malnad On the high land in the middle of the state little grows but coarse grass.

Water for irrigation is stored in tanks, of which there is an extraordinary number.

Most of the **sandal-wood** of India comes from the forests in the drier part of the country.

Of late years considerable quantities of **gold** have been obtained from mines worked under European management.

## VI. People.

POPULATION—

The population of Mysore in 1900 was over 5½ millions, mostly **Hindus.**

LANGUAGE—

The language of the country is **Kanarese.**

## VII. Towns.

**Bangalore** (159,000), 219 miles west of Madras, is the largest town. It is 3116 feet above the sea, and is considered to have one of the pleasantest climates in India. It is a large military and civil station, and has cotton and woollen mills.

**Mysore** (68,000), the capital of the state, is 96 miles south-west of Bangalore, and 2526 feet above the sea. Ten miles north, on an island in the Kavari, is Seringapatam, the former capital. It was stormed by the British in 1799, when Tipu Sultan was killed in the breach.

## COORG.

Area, 1582 square miles Population, 180,000.

Coorg is a British province immediately east of the Western Ghats, of which the Mysore Resident is the Chief Commissioner It is very rugged and hilly, and there is little space for cultivation. The people are a brave and intelligent race.

**Merkara** (7000), the chief town, stands on a small plateau 3800 feet above sea-level, 86 miles east of Bangalore.

### QUESTIONS.

1. What is the position of Mysore as a native state? How is it related, phvsically and politically, to Coorg?

2. Describe the natural features of the Mysore plateau. How is it drained?

3. Name (1) the principal food crop, (2) the most characteristic forest product, (3) the most valuable mineral product, of the State?

4. What are the Tungabhadra, the Malnad, Merkara, Seringapatam, droogs?

## THE ISLANDS.

THE **Andaman Islands** (area, 1760 square miles) are situated in the east of the Bay of Bengal, about 600 miles from the mouth of the Hugli. There are two groups, the **Great** and **Little Andamans.** They are hilly and covered with forest, and surrounded by mangrove swamps and coral reefs

The penal settlement of **Port Blair** is on the south island of the Great Andamans The population in 1901 was 24,499.

The aborigines are a small, woolly-haired, exceedingly black race of low civilization.

The **Nicobars** (area, 634 square miles) are 88 miles south of the Little Andaman, and consist of 18 islands, the largest of which is 30 miles long and 12 to 15 miles wide. They have a large trade in cocoa-nuts.

The natives are entirely different from the Andamanese, being of Malay origin.

The **Laccadives** are a group of 14 islands 200 miles off the Malabar coast. There is a large trade in coir. The population in 1891 was 14,440, all Muhammadans.

## NEPAL.

### I. Introductory.

NEPAL, though an independent kingdom, is geographically within India. There is a British Resident at the capital, but Europeans in general are jealously excluded from the country. The nominal ruler is the Maharaja Dhiraj, but the actual power is in the hands of the Prime Minister, who is of **Ghurka** race, and is styled Maharaja.

### II. Geographical Situation and Size.

The state includes the central section of the main Himalaya, and the low country (the *tarai*) immediately south of it. It lies between Sikkim and Kumaun.

Its area is estimated at 54,000 square miles, and its population at two millions.

Its length from east to west is about 550 miles, and its breadth 160 miles.

### III Boundaries.

On the North : Tibet.
On the West and South : the United Provinces.
On the South and East : Bengal.

### IV. Relief and Climate.

The section of the Himalaya in Nepal contains some of **its** highest peaks: **Dhaulagiri**, **Dayabang**, and **Everest**. The range is broken through by three large rivers . the **Gogra** in the west, the **Gandak** east of Dhaulagiri, and the **Kosi**, east of Everest.

### V. Products.

The lower valleys are inhabited and cultivated.

The *tarai* produces crops of **rice**, **millets**, **oil-seeds**, and **tobacco**. **Sal** and **sisu** are the principal timber trees.

### VI. Trade and Commerce.

Most of the trade with India follows routes connecting the Khatmandu valley with stations on the Bengal frontier.

### VII. People.

RACES AND RELIGION —

The inhabitants are of mixed race, partly **Mongolian**, partly **Indian**. The prevailing religion is a simple form of Hinduism.

The **Ghurkas** are the predominant tribe. They are a small, hardy, and warlike race, and some of the best of the Indian troops are recruited from them.

**Khatmandu** (50,000), the capital, is situated in a valley 4,500 feet above sea-level.

## BHUTAN.

### I. Introductory.

THIS is an independent state in the Eastern Himalaya, from which Europeans are entirely excluded. The only political relation which it has with the Government of India is that once a year a chief comes to Baxa on the frontier, to receive the annual subsidy of a lakh of rupees.

### II. Geographical Situation.

It occupies a position east of Sikkim corresponding with that of Nepal west of Sikkim, with the difference that the tracts (duars) below the hills are British.

### III. Size and Shape.

Its length from east to west is about 160 miles, its breadth 90 miles, and it has an area of about 16,800 square miles. The population is believed to be about 50,000.

### IV. Boundaries.

On the North and East: Tibet.
On the South: Assam and Bengal.
On the West: Bengal and Tibet.

### V. Relief.

The best known peak in the Bhutan Himalaya is **Chumalari** (23,989 feet) in the extreme north-west.

The interior is little known, but is wild, forest-clad, mountain country, with great extremes of climate.

The drainage of the country is carried to the Brahmaputra by the numerous rivers which emerge from the hills upon the duars of north-eastern Bengal and north-western Assam.

### VI. Trade and Commerce.

The chief exports are **wool, wax, musk,** and **ponies,** and the chief imports are **cotton-goods, betel-nuts, tobacco, silk,** and **rice.**

### VII. People and Government.

The government of the country resembles that of Tibet. The people are an oppressed and degraded race, though physically strong and well-made. Their religion is Buddhism.

The capital of the country is **Punakha,** about 100 miles north-east of Darjeeling.

## FRENCH POSSESSIONS.

France has 203 square miles of territory in India, with a population of about 283,000.

There are five settlements:

**Chandernagore,** on the Hugli, 20 miles above Calcutta.
**Yanaon,** in the Godavari delta.
**Pondicherry** and **Karikal,** on the Coromandel coast.
**Mahe,** near Tellicherri, on the Malabar coast.

The Governor-General lives at Pondicherry, which is by far the largest settlement.

## PORTUGUESE POSSESSIONS.

Portugal has 1558 square miles of territory, with a population of about 572,290.

There are three settlements, all on the Bombay coast:

**Goa,** in the South Konkan;

**Daman**, south of Surat.

**Diu**, an island south of the Kathiawar peninsula.

**Goa** (14½ square miles) is the largest settlement, and its port, Marmagoa, is connected with Bombay by a railway over the Western Ghats.

**Goa City** consists of the old town and the new The former has a fine cathedral, and the church containing the venerated tomb of St. Francis Xavier.

QUESTIONS.

1. Where are the Andaman, the Nicobar, and the Laccadive Islands? What is noteworthy about the natives of each group?

2. Name the principal peaks of the Himalaya that are situated in Nepal and Bhutan. What rivers emerge upon the plains of India from these portions of the Himalaya?

3. What do you know of the Nepalese and Bhutias? What religions do they respectively follow?

4 Where and what are Chandernagore, Goa, Pondicherry, Diu, Yanaon, and Mahe?

## CEYLON.

### I. Introductory.

THIS island belongs geographically to India, though, being a British Crown Colony, it is politically outside the Indian Empire.

### II Geographical Situation.

It is situated to the south-east of the Indian peninsula, separated from it by the **Gulf of Manaar** and **Palk Strait,** and almost connected with it by islands and the line of rocks and sandbanks known as **Adam's Bridge.**

### III. Size and Shape.

Ceylon is more than three-quarters of the size of Ireland, having an area of 25,365 square miles. In shape it is not unlike a pear, with the small end pointing north.

Its length is 270 miles, and its greatest width is 140 miles.

### IV. Coast.

The coast is not much more broken than the neighbouring coast of India, but there is a fine natural harbour at **Trincomalee,** in the north-east of the island.

**Dondra Head**, in the south of the island, is the southernmost point of India.

## V. Relief.

MOUNTAINS—

The central portion of the southern half of the island is occupied by a mass of mountains rising in **Pidrutalagala** to 8296 feet, and in **Adam's Peak** to 7353 feet.

The latter peak stands up boldly in the south-west of the mountain region, and is a great place of pilgrimage to Buddhist, Hindu, and Muhammadan alike.

The northern half of the island is a plain, and the central mountain region has a belt of low country, broken by hills, between it and the coast.

## VI Rivers.

There are no large rivers in the island. The largest is the **Mahavila Ganga,** which rises in Pidrutalagala, flows past Kandy, and enters the sea on the north-east coast It is 134 miles long, and is navigable by small boats nearly to Kandy.

## VII. Climate.

The south-west monsoon blows full on the island, and the south-west plains and the central mountain region have a heavy rainfall. The northern parts of the island have a hot, dry climate, like that of the dryer parts of the Carnatic. The climate of the south-west coast is moist, hot, and uniform.

## VIII Plants and Animals.

PLANTS-

Most of the island was formerly covered with forest, and vegetation is very luxuriant on the hills and on the south-west coast.

**Cinnamon** grows wild in the forests and **satin-wood, ebony,** and other valuable timber trees abound.

ANIMALS—

**Wild elephants** are still to be found in the jungles.

## IX. People.

POPULATION—

The population in 1899 was about three and a half millions, giving an average density of 136 to the square mile, considerably less than that of India.

RACES AND RELIGIONS—

Two-thirds of the people are **Singhalese,** and nearly one-quarter **Tamils.**

More than half the population are **Buddhists** by religion, a fifth are **Hindus**, and a tenth are **Christians.** **Muhammadans** form a small minority.

LANGUAGES—

**Tamil** is the prevailing language in the north of the island, and **Singhalese** in the south.

## X. Products and Industries.

MINERALS—

The island is rich in minerals. The most important are **plumbago** and **gems**, including rubies, sapphires, amethysts, garnets, and cats'-eyes.

There are **pearl** fisheries in the Manaar Gulf.

AGRICULTURAL PRODUCTS—

The great agricultural industry was formerly **coffee**, but of late years **tea** has taken its place, and is most flourishing

**Cinchona** and **cacao** are also cultivated.

**Cinnamon** is grown in the south-west, and excellent **tobacco** in the north of the island, near Jaffna.

**Rice** is the chief food crop. About one eighth of the country is under cultivation.

## XI. Means of Communication.

RAILWAYS—

A line on the Indian standard gauge runs from Colombo to Kandy, and through the tea districts of the hills to Bandarawela.

There is also a line from Colombo running down the coast through Galle to the south of the island.

## XII. Commerce.

EXPORTS—

The exports in order of value are **tea, cocoa-nut oil, copra,** and **coir, coffee, plumbago, areca nuts, cinchona.**

IMPORTS—

The imports are **rice, cotton goods, coal** and **coke, salt fish.**

## XIII. Government.

The colony is administered by a **Governor** appointed by the King, an **Executive Council,** and a **Legislative Council.** It is divided into nine provinces under **Government Agents.**

## XIV. Towns.

**Colombo** (127,000), the capital of the Colony, is one of the greatest ports-of call in the world, lying, as it does, on the steamer route to China and Australia. It has a good artificial harbour.

**Jaffna** (43,000), at the northern extremity of the island, has a considerable trade with India across the Palk Strait.

**Galle** (34,000), at the extreme south-west of the island, 72 miles south of Colombo, has a small harbour which was the calling port for steamers on their way east before the harbour was made at Colombo.

**Kandy** (20,000) was the last capital of the native rulers. It is beautifully situated 2000 feet above sea-level, on the banks of an artificial lake

The **Peradeniya** botanic gardens, three miles away, are celebrated.

**Newara Eliya**, 6240 feet high, on the west side of Pidrutalagala, is the chief hill-station. The railway passes near it.

**Trincomalee** (11,000) is the headquarters of the British Fleet in the East Indian seas.

The **Maldive Islands** in the Indian Ocean, 500 miles west of Ceylon, are a group of coral islets, richly clothed with cocoa-nut palms. They are a dependency of Ceylon, to which they pay tribute. The inhabitants are Muhammadans, and are great sailors and traders.

### Questions

1. What is the nature of the relief of Ceylon? What is the main line of drainage?

2 Describe the climate and vegetable products of the island.

3. What minerals are found? Name the chief exports and imports.

4 Describe the situation and importance of the following towns: —Galle, Trincomalee, Jaffna, Kandy, Colombo.

5. What do you know of Newara Eliya, Adam's Peak, Dondra Head, the Gulf of Manaar, the Maldive Islands, Peradeniya?

## THE MALAY PENINSULA.

### I. Introductory.

This peninsula is occupied by Native States tributary to Siam, by the British Straits Settlements, and by the Native States feudatory to the latter.

The **Straits Settlements**, so called from their position on the

Straits of Malacca, are a British Crown Colony under a Governor, aided by Executive and Legislative Councils.

They consist of the island of **Penang**, with **Wellesley Province**, on the mainland of the Malay Peninsula, opposite to it, **Malacca**, also on the mainland, and the island of **Singapore.**

The **Native States**, which occupy the southern portion of the Malay Peninsula, stand in the same relation to the Colonial Government as the Native States of India do to the Indian Government. The largest are **Perak**, **Pahang**, and **Johor** in the south.

The **Cocos Islands**, south west of Sumatra, and **Christmas Island**, south-west of Java, also belong to the Straits Settlements.

The Native States tributary to Siam occupy the northern portion of the peninsula

## II. Geographical Situation.

The **Malay Peninsula** is separated from Burma and Siam by the **Kra Isthmus**. It is bounded on the west by the Malacca Strait, which separates it from the island of Sumatra. On the east it is washed by the China Sea From the Kra Isthmus it runs south-east for about 700 miles, terminating in **Cape Buru**, the southernmost point of Asia.

**Penang**, 107 square miles, is a small island lying off the coast of the mainland of the peninsula, at the northern entrance of Malacca Strait.

The settlement of **Malacca** is about 250 miles south-east of Penang.

**Singapore**, 206 square miles, an island 381 miles south east of Penang, lies close to the mainland at the southern entrance of the Malacca Strait.

## III. Size.

The total area of the peninsula is approximately 80,000 square miles

The area of the British colony and its allied native states is about 40,000 square miles · four-fifths the size of England. The settlements proper are about 1500 square miles.

## IV. Relief.

Except in Johor State, at the southern extremity of the peninsula, which has only isolated groups of hills, the whole of the peninsula is mountainous, and is intersected by numerous rivers.

## V. Climate.

The climate is insular, resembling that of Sumatra and the other islands of the eastern seas. It is hot and moist, but nevertheless cooler and drier than that of the rest of Indo-China.

## VI. Plants and Animals.

Most of the country is covered with dense tropical forest, in which brilliant birds and insects abound

The tiger (a smaller species than the Bengal tiger), elephant, rhinoceros, bison, deer, and various monkeys are found

## VII. Products and Industries.

AGRICULTURAL PRODUCTS —

Wherever the land is cleared it is most fertile, and produces large quantities of **rice, tapioca, pepper, cloves, sugar, nutmegs, sago, gambier,**[1] **coffee.** The **mangosteen** and **durian** are characteristic fruits.

MINERALS —

The chief mineral product is **tin.** Half the world's supply of this metal comes from the mines in the mountain districts of the peninsula.

INDUSTRIES—

The **Malays** are mostly fishermen and sailors

The **Chinese** are miners, traders, and agriculturists.

## VIII. People.

POPULATION —

The population is about one million, chiefly **Malays** and **Chinese,** with some natives of India.

RELIGIONS —

The Malays are **Muhammadans**; the Chinese are **Buddhists.**

## IX. Trade and Commerce.

Most of the produce of the country is collected at Singapore for re-shipment.

EXPORTS—

The exports are **tin, spices, gambier, gums, tapioca, rattans, copra.**

IMPORTS—

The imports are **rice, cotton goods, opium, fish, tobacco.**

[1] An extract from the leaves of a shrub used in tanning and dyeing.

## X. Means of Communication.

The rivers are the natural highways of the country.

There are several short lines of railway on the mainland connecting the interior with the coast.

## XI. Towns.

**Singapore** (185,000), the capital of the Straits Settlements, is situated in the south-east of the island of Singapore. It has a fine harbour, and, being at the junction of the trade routes between India, Australia, the Dutch East Indies, China, and Japan, is a most important port-of-call. It is a well-laid-out town, with Malay, Chinese, and European quarters.

**George Town** is the chief town of Penang

**Malacca,** a decaying port, is the chief town of the settlement of that name

**Johor Bahru** (15,000), the capital of Johor, is the chief town in the native states. It stands about 15 miles north-west of Singapore.

### QUESTIONS.

1. Describe the geographical situation of the Malay Peninsula. What is the political distribution of its surface?
2. How many British settlements are there on the Malacca Strait? Describe the situation of each.
3. What are the surface features of the peninsula? Mention some of its characteristic products
4. To what is the importance of Singapore as a port due? What is the nature of its trade?
5. What and where are Christmas Island, Johor, George Town, the Kra Isthmus, Perak, Cape Romania, and Pahang?

# SIAM.

## I. Introductory.

This is the only remaining independent kingdom in the Indo-China peninsula.

The word 'Siam' is probably connected with 'Shan,' the name of the tribes occupying the east of Burma.

The semi-independent tribes occupying the **Laos** country in the north of Siam are of the same race.

The native name of Siam is **Thai,** which means 'free.'

## II. Geographical Situation.

**Siam** occupies the central portion of the Indo-China Peninsula. It lies at the head of the **Gulf of Siam**, and extends down the west side of the Gulf as far as the **Isthmus of Kra.** The native states occupying the section of the Malay Peninsula immediately south of the Kra Isthmus are tributary to it.

The country is bounded on the north and west by Burma, and on the north and east by French Indo-China.

## III Size.

It is almost the same size as Bengal, having an area of about 200,000 square miles.

## IV. Relief.

Siam consists of the low-lying alluvial basin of the **Meinam,** which rises in the hilly Laos country in the north, and the slightly elevated plateau to the east, which forms the water-parting between the Meinam and the **Mekong.**

The **Meinam delta**, like that of the Mekong, is continually advancing seawards The country on both sides of the Meinam basin, as well as a great part of the interior, is covered with dense tropical forest, in which teak abounds

## V Climate.

The climate is hot and moist, and the vegetation luxuriant.

## VI. Products.

AGRICULTURAL PRODUCTS—

**Rice** is the principal crop. **Pepper, cotton, tobacco, sugar cane,** and **coffee** are also produced. Fruit is abundant.

MINERALS—

**Tin** and **coal** are found in the part of the Malay Peninsula which belongs to Siam.

## VII. People.

POPULATION—

The population is about five millions, so that the country is scantily populated. Only a small fraction of it is under cultivation. The Meinam basin is the most populous region.

RACES AND RELIGION—

In the north the inhabitants are **Laotians** or **Shans**; elsewhere Siamese and Chinese, with an admixture of Malays in the south.

**Buddhism** is the prevailing religion.

### VIII. Trade and Commerce.

Local trade is chiefly in the hands of the Chinese; foreign trade in the hands of the English and other foreigners.

EXPORTS—

The exports are **rice, teak, pepper,** and **salt fish.**

IMPORTS—

The imports are **cotton goods** and **hardware.**

### IX. Government and Towns.

The King is really an absolute monarch, but he is advised by a council consisting of the heads of the various departments of administration, who are usually his half-brothers Of late years the results of western civilization have been, to some extent, introduced, but hitherto they have not had much real effect upon the general administration of the country.

**Bangkok**, the capital, is situated near the mouth of the Meinam, a few miles below **Ayuthia**, the former capital, famous for its Buddhist remains. Its appearance from the river is picturesque, and it has been called the "Asian Venice," from the canals which intersect it, and its large floating population. The population is estimated at 200,000, chiefly Siamese and Chinese

**Paknam**, lower down the river, is connected with Bangkok by a short line of railway, and various other lines are projected which will do much to open up the country

**Chantabun**, on the east coast of the Gulf, is an important port, at present held by the French.

QUESTIONS.

1. What is the native name of Siam? Describe its position in the Indo-China peninsula.
2. What is the general nature of the relief of the country? How is it populated?
3. Mention the most important vegetable products. Which of these are exported?
4. How is the country governed? Describe the capital.
5. What do you know of Laos, the Meinam, Chantabun, Paknam?

## FRENCH INDO-CHINA.

### I. Introductory.

FRENCH Indo-China is the eastern portion of the Indo-China Peninsula. It comprises the French colony of **Cochin China,** and the Protected States of **Cambodia, Annam,** and **Tongking.**

## II. Size.

The total area is about 263,000 square miles, somewhat more than a third of the whole area of the Indo-China peninsula.

## III. Boundaries.

On the North: China.
On the East. the China Sea and the Gulf of Tongking.
On the South · the Gulf of Siam and the China Sea
On the West: Burma and Siam.

**Tongking** occupies the middle basin and the delta of the **Songkoi**, or **Red River**, in the north.

**Annam** is the central portion of the eastern seaboard.

**Cochin China** comprises the delta of the **Mekong** or **Cambodia River**, and the adjacent country.

**Cambodia** includes the basin of the Mekong just above the delta, and the district of the great Cambodian lake, **Tonle-sap.**

## IV. Relief.

The deltas of the **Red River** and the **Mekong**, and the whole of the eastern coast are low alluvial plain, advancing rapidly seaward.

**Hanoi**, the capital of Tongking, now sixty miles inland, was on the sea in the seventh century

The country west of the hills near the Annam coast belongs to the **Mekong Basin**, and is a plateau covered with dense forest

The north of **Tongking** is mountainous.

## V. Rivers and Lakes.

The great river of French Indo China is the **Mekong**, which rises in Tibet The general direction of its course from source to sea is east-of-south. Near Pnom-penh a branch goes off north-west to the Tonle-sap Lake. Two other branches traverse Lower Cochin-China, and flow into the China Sea. The navigation of the river above the delta is much obstructed by rapids.

The **Songkoi**, or **Red River**, rises in the Chinese province of Yunnan, and flows south-east through Tongking into the gulf of the same name. It is navigable by steamers of shallow draught to the Chinese frontier.

The **Tonle-sap Lake** is a large fresh-water lake in the north-west of Cambodia. It swarms with fish.

## VI. Climate.

The climate is hot, moist, and unhealthy.

## VII. Products and Industries.

AGRICULTURAL PRODUCTS—

**Rice** is produced in very large quantities in the deltas and alluvial lands along the coast.

MINERALS—

**Copper, iron,** and **coal** mines are worked.
Tongking is rich in mineral wealth

## VIII. Plants and Animals.

**Resin, dye,** and **spice-producing plants** are abundant.

Cambodia gives its name to the yellow gum-resin used as a paint (**gamboge**)

The wild animals are the same as in the Malay Peninsula.

## IX. People.

POPULATION—

The population is estimated at about 22 millions, so that French Indo-China is much more thickly populated than Burma.

RACES AND RELIGION—

The inhabitants of Tongking, Annam, and Cochin China are of **Mongolian** race, and are morally and physically the least attractive of the Indo-Chinese peoples. Buddhism is the prevailing religion.

The Cambodians are **Aryans,** and there are magnificent remains of an ancient and superior civilization, probably of Hindu origin, near the Cambodian lake.

## X Trade and Commerce.

The trade is chiefly with France and China.

EXPORTS—

The exports are **rice, sugar, cinnamon, pepper, salt fish, cotton.**

IMPORTS—

The imports are **hardware** and **machinery, cotton goods, petroleum.**

## XI Towns.

**Hanoi** (150,000), the capital of Tongking, is situated on the Red River.

**Haiphong,** in the Red River delta, is the chief port of Tongking.

**Hue** (30,000), the capital of Annam, and the residence of the King, occupies a strong position at the mouth of the Hue River.

**Saigon**, the seaport of Cochin China, on the Saigon River, 34 miles from the sea, is accessible by large vessels, and is the capital of French Indo-China.

**Pnom-Penh** (30,000), on the Mekong, is the royal capital of Cambodia, and is conveniently situated near the junction of the waterways of the country.

QUESTIONS.

1. What countries are comprised in French Indo-China? Compare French Indo-China, as to size, with British Indo China.

2 Describe the river system. What is noteworthy about the deltas of the rivers? Where is the Tonle-sap Lake?

3. Name the chief mineral and vegetable products? Which of them are exported, and to where?

4. To what races do the inhabitants of French Indo-China belong?

5. Mark on a sketch map the position of Hanoi, Saigon, Pnom-Penh, Hue, and Haiphong.

## *THE CHINESE EMPIRE.*

### I. Introductory.

THE **Chinese Empire** is the seat of one of the most ancient civilizations of the world. It comprises the greater part of Eastern and Central Asia.

### II. Size and Shape.

This vast empire stretches across 53 degrees of longitude and 34 degrees of latitude, having a length from east to west of about 3000 miles, and a breadth from north to south of about 2400 miles.

The total area is estimated at 4¼ million square miles, which is about half that of the Russian Empire, and more than one-third that of the British Empire

### III. Boundaries.

On the North : Russian Asia

On the East : the East China Sea and the Yellow Sea, which communicate with the Pacific Ocean

On the South : India, Indo-China, and the China Sea.

On the West : Russian Asia and India.

### IV. Population.

The Chinese Empire has a larger population than any other state in the world. It is estimated at 402 millions. The British Empire comes next with 383 millions.

## V. Divisions

The divisions of the Empire are :

| | Area in sq miles | Population. |
|---|---|---|
| CHINA PROPER, - - - | 1,353,000 | 386,000,000 |
| DEPENDENCIES : | | |
| Manchuria, - - - | 362,000 | 7,500,000 |
| Mongolia, - - - | 1,288,000 | 2,000,000 |
| Zungaria, - - - | 148,000 | 600,000 |
| Chinese Turkestan, - | 432,000 | 580,000 |
| Tibet, - - - - | 651,000 | 6,000,000 |

It will be noticed that the great bulk of the population is contained in China Proper The other divisions of the Empire, especially Mongolia, are scantily populated.

# CHINA PROPER.

## I. Introductory.

CHINA PROPER, known to its inhabitants as the "**Middle Kingdom,**" is by far the most important part of the Empire Not only has it 95 per cent. of the total population, but it is the richest in material resources of all kinds soil, mineral wealth, industries, and trade

## II. Geographical Situation.

China Proper occupies the south-eastern portion of the Chinese Empire, just extending into the tropics in the south.

## III. Size and Shape.

Lines drawn from north to south and from east to west are each very nearly 1400 miles in length.

The area is very nearly that of India Proper

Its shape is, roughly, circular . a semicircle bounded by the coast, and an inland semicircle.

## IV. Boundaries.

On the North : Manchuria and Mongolia.

On the East : the East China Sea, the Yellow Sea, and the Pe-chi-li Gulf.

On the South : Burma, Tongking, and the China Sea.

On the West : Tibet and Burma.

## V. Coasts.

The coast describes a curve convex to the east from the **Pe-chi-li Gulf** to the **Gulf of Tongking.** It has many small indentations, and there are numerous small islands and several large ones lying off it.

The largest inlet on the coast is Hang-chau Bay, south of Shanghai

The largest islands are **Formosa,** now belonging to Japan, and **Hainan,** east of the Gulf of Tongking.

**Hong-Kong** and **Macao** are small islands at the mouth of the **Canton River.** The former is British, the latter Portuguese

The mountainous **Shan-tung Peninsula** projects towards Korea between the Yellow Sea and the Pe-chi-li Gulf. On the north side is the harbour of **Wei-hai-wei,** recently occupied by the British, and on the south side **Kiau-Chau,** now leased to the Germans.

## VI. Relief.

PLAINS—

**The Great Plain of Northern China,** about the size of Bengal, is the only large tract of low-lying land. It occupies the lower basins of the **Yang-tse-kiang,** the **Hoang-ho,** and the **Pei-ho,** and extends to the north of Peking

The only other plain of any size is the lower basin and delta of the **Si-kiang** in Southern China.

MOUNTAINS—

The rest of China Proper is made up of mountain ranges and river valleys

The **Tsing ling** and **Fu niu-shan** Mountains continue the high land of the Tibetan plateau across China, and form the water-parting between the Hoang-ho and the Yang-tse-kiang.

The **Nan-ling** or **Nan-shan** Mountains, in the south, form the water-parting between the Yang-tse-kiang and the Si-kiang.

## VII. Rivers and Lakes.

Most of the drainage of China Proper is carried to the eastern seas by four rivers. the **Pei-ho,** the **Hoang-ho,** the **Yang-tse-kiang,** and the **Si-kiang.**

The **Pei-ho** is formed by a number of rivers which drain the northern portion of the Great Plain and the mountain region west of Peking, and unite at **Tien-tsin.** It enters the Gulf of Pe-chi-li at **Taku.**

The **Hoang ho** (2500 miles) rises in Tibet at a height of 14,000 feet. It formerly flowed to the Yellow Sea, but now flows to the Pe-chi-li Gulf.

From the great and destructive changes of its course it is known as "China's sorrow."

The Hoang-ho has few tributaries and, on account of its rapid current, is of little use for navigation

The **Yang-tse kiang** (3200 miles) rises in the heart of Tibet not far from the Hoang-ho, and, like that river, it has a very winding course.

The distance between the great northern bend of the Hoang-ho and the great southern bend of the Yang tse-kiang is over 1000 miles Its basin occupies nearly half of China Proper, and it is the most important highway of trade in China, being navigable for 2000 miles, and having numerous navigable tributaries.

Ocean steamers can go up it to **Hankow**, 700 miles from the sea.

It flows into the East China Sea to the north of Shanghai.

The **Han-kiang** from the north, the **Siang-kiang** and **Kan kiang** from the south, are great navigable tributaries.

The **Si-kiang** rises in the highlands of Yunnan, and flows east to its delta on the China Sea.

LAKES—

There are large lakes in the eastern plains and the Yang-tse valley.

The **Tungting Lake**, through which the Siang-kiang flows, is the largest in China.

The Kan-kiang flows through the **Poyang Lake**.

## VIII. Climate.

As China Proper extends from lat. 42° N to lat. 18° N., it naturally has a wide range of climate, but, on the whole, it has a much more temperate climate than India.

The moist winds from the Pacific bring a copious rainfall, and though the winters in the north are severe, and the summers in the south hot, the climate in general is less extreme than the climates of countries to the north and west.

**Peking** and **Madrid**, **Shanghai** and **Cairo**, **Canton** and **Calcutta**, are in nearly the same latitudes.

The China Sea is subject to terrible typhoons or cyclones.

## IX. Plants and Animals.

PLANTS—

China is not a well-wooded country. In the richly-cultivated plains all jungle is cleared to make room for crops, and only trees of practical utility are tolerated, such as the **bamboo, mulberry,** and various fruit trees, especially the sweet orange.

Trees producing **wax, camphor,** and **varnish** are characteristic; also plants with medicinal roots, such as **ginseng** and **rhubarb.**

ANIMALS—

**Wild animals** are rare.

**Cattle, sheep,** and **horses** are not common.

**Buffaloes, swine,** and **ducks** abound.

**Fish** are bred for food, and both inland and sea fisheries are of great importance.

## X. People.

POPULATION—

The population exceeds 386 millions, giving an average of over 290 to the square mile.

This makes China by far the most densely populated large country in the world, though it has no tract of equal size so densely populated as Bengal and Bihar.

RACES—

The people are of the **Mongolian** or yellow type of mankind.

RELIGION—

The prevailing religion is **Buddhism,** combined with ancestor worship, which is universally practised. The moral precepts of the sage Confucius are held in great reverence. **Confucianism** is the state religion. There are some millions of Muhammadans in the north-west and south-west.

LANGUAGE—

The Chinese **language** belongs to the **monosyllabic** family of speech, that is, it is made up of single words, conveying simple ideas. There are no inflexions, and there is no alphabet. Complex ideas are expressed by groups of single words.

The Chinese had reached a considerable degree of civilization in very early times. They made use of printing, paper, gunpowder, and the mariner's compass long before they were known to the rest of the world, but their civilization has made no real advance for centuries.

## XI. Products and Industries.

The country is most fertile, and the people are the most skilful and industrious agriculturists in the world. The northern plain has a peculiar yellow soil, called **loess,** of wonderful fertility.

AGRICULTURAL PRODUCTS—

**Wheat, barley, maize,** and **millets** in the north; **rice** and **cotton** in the south, **sugar, opium,** and **tea** in the west and south.

**Silk** culture is a most important industry, and the mulberry grows everywhere.

MINERALS—

China is one of the great **coal** countries of the world, but the coal has hitherto been little worked

**Iron** and **copper** occur in considerable quantities

There are valuable deposits of **kaolin** or China Clay.

MANUFACTURES—

Cotton mills have recently been established in Shanghai and other places.

The Chinese are famous for their **porcelain, silk, embroidery,** and **lacquer ware.**

## XII Means of Communication.

ROADS AND WATERWAYS—

The roads are mere tracks, and the canals and navigable rivers, especially the Yang-tse and its tributaries, are the chief means of communication.

The **Grand Canal,** 700 miles long, runs from **Hang-chau** to **Tien-tsin,** connecting the Yang-tse-kiang, Hoang-ho, and Pei-ho.

RAILWAYS—

Railways are in their infancy, but concessions have been granted for the construction of over 3000 miles of line. The most important line projected is one to connect Peking with Hankow on the Yang-tse-kiang, and eventually with Canton.

A railway connects **Taku,** at the mouth of the Pei-ho, with **Tientsin** and **Peking,** and a line also runs along the coast into Manchuria.

TELEGRAPHS—

Telegraphs extend all over the country connecting the principal cities with one another, and with the capital.

## XIII. Trade and Commerce.

There are now 2[illegible] treaty ports at which foreigners are allowed to trade. The organisation for the collection of customs is under British management.

Most of the trade is with the United Kingdom, India, and the British Colonies.

EXPORTS—

The exports are **tea, silk, straw-braid, sugar,** and **China-ware.**

Tea is compressed into **bricks** for export to Central Asia, Tibet, and Mongolia

IMPORTS

The imports are **cotton-goods, opium, metals, kerosene,** and **woollen-goods.**

## XIV. Government and Towns.

The government of the country is despotic The Emperor is aided by a Grand Council. The government officials of various grades are called **mandarins**, who are selected by competitive examination in the ancient literature of the country.

**Peking,** the capital (one million), is situated in the north of China Proper, about 100 miles from the head of the Pe-chi-li Gulf. It consists of a Chinese outer-quarter, and a Manchu inner-quarter, in which is the imperial palace.

After the rising against foreigners in 1900, the imperial court withdrew for a time to Singan, an old capital. During the rising a great number of public buildings, and almost the whole of the business quarter of the city, were destroyed Many of the inhabitants fled, and the population may now not exceed 500,000.

**Singan** (700,000) occupies a most important position on a southern tributary of the Hoang-ho, in the centre of northern China. It commands the most important inland trade routes, including the one leading to Western Siberia, and must grow in importance with the advent of railways.

**Tien-tsin** (950,000), on the Pei-ho, is the port of Peking, with which it is connected by railway. It has suffered greatly in the recent disturbances.

**Shanghai** (615,000), south of the Yang-tse-Kiang estuary, is the chief seaport and trade emporium for northern China. It has a large European settlement.

**Hang-chau** (700,000), at the head of Hang-chau Bay, is the southern terminus of the Grand Canal. It has an extensive silk industry.

**Hankow** (850,000), 700 miles up the Yang-tse-Kiang, is the greatest trade-mart of the interior, and the centre of the tea-trade with Russia and Britain. On the other side of the Yang-tse is **Wuchang**, with cotton mills.

**Nanking**, on the lower Yang-tse-Kiang, once the southern capital, with a vast population, has been ruined by the frequent rebellions, and is now a decaying city.

**Siangtan** (1,000,000), on the Siang-kiang, is a great centre of trade in drugs.

**Ning-po** (255,000) is a flourishing treaty port and manufacturing town south of the Hang-chau Bay.

**Canton** (2,500,000), in the Si-Kiang delta, is the most populous city in China, and has a great trade in tea and silk.

**Fu-chau** (650.000) is the largest port between Shanghai and Canton.

**Amoy**, opposite the island of Formosa, has an excellent harbour.

**Chengtu** (800,000), in the west, one of the finest towns in the empire, has a large trade with Tibet, dealing in furs, rhubarb, and musk.

**Hong-Kong**, a rugged island at the mouth of the Canton river, 90 miles south of Canton, is a British Colony under a Governor. The island is about 11 miles long, separated from the mainland by a narrow strait about half a mile wide. The population is about 250,000 By a recent convention the whole of the Kau-lung peninsula on the opposite mainland, together with the adjacent islands and harbours, has been leased to the British.

**Hong-Kong** is one of the greatest trade-marts in the far East, and also a great naval and military station.

**Victoria**, the capital of the island, extends for about 4 miles along the southern shore of the harbour.

## MANCHURIA.

**Manchuria** extends north from China proper and the **Liao-tung Gulf** to the river **Amur**, and east from the **Khingan Mountains** to Korea and Siberia. It is, on the whole, a hilly country, and is very fertile and healthy. The chief river is the **Sungari**, a tributary of the Amur.

The Manchus are a military race to which the ruling dynasty of China belongs, but the country is rapidly becoming Chinese in population, and Russian politically.

The old capital was **Mukden**; the new capital is **Kirin** on the Sungari.

**Port Arthur**, at the extremity of the Liao-tung Peninsula, a strong fortress and arsenal which was taken by the Japanese in the war of 1894, has now been leased to the Russians as well as **Talienwan**, a mercantile port, and the southern terminus of the trans-Siberian railway.

## MONGOLIA.

**Mongolia** is a vast region of steppes and deserts sparsely inhabited by nomad Mongolian tribes, who rear sheep, camels, and horses.

It lies west of Manchuria, south of Siberia, and north of China Proper and Tibet

The **Desert of Gobi** occupies the greater part of the country, and is crossed by caravans going from China to Russia.

**Urga**, the capital, after Lhasa the most sacred city of Buddhism, is in the Yablonovoi Mountains. The great trade route connecting Pekin with Eastern Siberia goes through Urga to **Maimachin**, a frontier town opposite the Russian town Kyakhta in Transbaikalia

## ZUNGARIA.

**Zungaria** lies north-west of Mongolia, between the Tian-shan and the Altai Mountains It is the richest part of the empire outside China Proper, and its valleys are the means of communication with Western Siberia and Russian Turkestan.

The capital is **Kulja**, in the Ili valley, on the trade route between Pekin and Western Siberia.

## CHINESE TURKESTAN.

**Chinese Turkestan** is situated to the east of the Pamir Plateau, and occupies the basin of the **Tarim**, which lies between the Tian-shan and Kuen-lun ranges

The Tarim flows east to **Lob-Nor**, a shallow, swampy lake 2200 feet above the sea. South of the Tarim lies the **Takla Makan** Desert.

Chinese Turkestan consists of deserts and steppes and fertile mountain valleys, inhabited by Turki-Muhammadans and Mongolian nomads

**Kashgar** (50,000) and **Yarkand** (60,000), the chief centre of trade with Kashmir by the Karakoram Pass, are the chief towns.

## TIBET.

**Tibet** occupies the great central highland of Asia between the Himalaya and the Kuen-lun. It is the highest of the great plateaux of the world, rising in many parts to 16,000 feet.

The head of the state is the Grand Lama, the high priest of Buddhism, who lives at **Lhasa**, the capital.

The government is practically independent of China, and the country is very inaccessible to foreigners.

**Wool** of excellent quality is the chief **export**. The **musk** of Tibet is highly esteemed, and the country is believed to be rich in the precious metals.

## QUESTIONS.

1. Compare the Chinese Empire with Europe, the United States of America, the British Empire, and the Russian Empire in respect of (1) extent of territory, (2) population.

2. Arrange in order of size the divisions of the empire; name the capital of each, and give its approximate latitude and longitude

3. What part of the empire is China Proper? Name its boundaries, and describe its coast line.

4. What river basins form the greater part of China Proper? Mark the courses of the principal rivers on a sketch map.

5. What do you know of the climate of China? What is the nature of the vegetation?

6. Give some account of the Chinese people in regard to race, religion, language, and character.

7. What do you know of the products and industries of China?

8. Discuss the rivers of China as means of internal communication. How are the rivers supplemented?

9. What are the treaty ports? Name the principal exports and imports.

10. How is China governed? What foreign powers have a territorial interest in China?

11. Describe the British colony of Hong-kong.

12. Name the boundaries of Manchuria. What are the people of the country called, and how have they influenced the destinies of China?

13. What sort of a country is Mongolia? In what part of the Chinese Empire does it lie?

14. Where is Zungaria? Describe its surface features.

15. Mention the most noteworthy facts regarding Tibet and its inhabitants. What rivers have their origin in the country?

16. What do you know about Chinese Turkestan? How is it bounded on the west?

17. Where and what are the Pe-chi-li Gulf, Macao, Yarkand, Wei-hai-wei, Hainan, the Pei-ho, Lob-Nor, Kulja, Hang-chau, Kirin, the Khingan Mountains, Tien-tsin, Fuchau, the Sungari, Canton, Urga, Shanghai, the Tarim, Port Arthur, Victoria, the Takla Makan Desert, Lhasa, Kiau-Chau?

## KOREA

**Korea** is a mountainous peninsula projecting south between the Japan Sea and the Yellow Sea.

Its area is 82,000 square miles—the same as that of the Nizam's dominions, and a little less than that of Great Britain.

The climate in summer is hot, though the heat is tempered by the neighbourhood of the sea. In winter the cold is severe.

GOVERNMENT—

The King was formerly feudatory to China, though absolute in his own country; but since the China-Japan War the country has been under Japanese and Russian influence, which has brought about many changes.

Until recent times Korea kept itself in jealous isolation, and was, on that account, known as the 'Hermit' kingdom.

POPULATION—

The population is about 11 millions. The nobles are very exclusive; the lower orders servile and lazy.

RELIGION—

The religion is the same as that of the Chinese: Buddhism combined with ancestor worship.

Korea is an agricultural country with great natural resources **Gold, copper, iron,** and **coal** abound

The capital is **Seoul** (200,000). It is connected by railway with the chief port, **Chemulpo**, on the Yellow Sea.

## JAPAN.

### I. Introductory.

THIS insular empire, called **Nippon** by the Japanese, consists of the four islands of Japan proper.

**Hokkaido** or **Yezo** in the north,
**Honshiu**, the largest and most important,
**Shikoku**, the southern island, and
**Kiushiu**, the south-western island.

The **Kurile Islands** to the north, the **Luchu Islands** to the south, **Formosa**, off the coast of China, and other groups, also belong to Japan.

## II. Geographical Situation.

These islands form a curve from Formosa to the south of Kamchatka, enclosing the **East China Sea**, the **Sea of Japan**, and the **Sea of Okhotsk.**

**La Perouse Strait** separates Yezo from the Russian island of Sakhalin, and the **Korean Strait** separates Korea from Kiushiu and the south-west of Honshiu.

Between Kiushiu, Shikoku, and the south-west of Honshiu is the **Inland Sea**, famous for its beautiful scenery.

The Tropic of Cancer passes through Formosa, while the Kurile Islands extend beyond lat. 30° N.

## III. Size and Shape.

The total area of the empire is about 160,000 square miles, one-third greater than that of the United Kingdom.

The Japanese islands, like the British Islands, are irregular in shape, and have a very broken coast-line, so that few places are more than 70 miles from the sea, and harbours are numerous.

## IV. Relief.

The islands are very mountainous, and a number of the peaks are active volcanoes.

Earthquakes are very frequent, but seldom severe.

The highest mountain is **Fuji-Yama** (12,400 feet) in Honshiu, about 70 miles south-west of Tokyo, the capital

**Formosa**, so called by the Spaniards on account of its picturesque appearance from the sea, is mountainous and well-wooded.

## V. Rivers and Lakes.

The nature of the country prevents the formation of large rivers. They are numerous, but short and rapid, and of little use for navigation or irrigation. The silt they bring down chokes up the harbours into which they flow.

**Lake Biwa**, 45 miles long, in the south of Honshiu, is situated in the midst of beautiful scenery.

## VI. Climate.

Japan occupies a position in the east of Asia not unlike that of the British Isles in the west of Europe, though much farther south.

The **Kuro Siwo**, a warm ocean current, flows along the eastern coasts, and moderates the climate just as the Gulf Stream does that of the shores of Western Europe.

The climate, on the whole, is healthy, though much less equable than that of the British Isles. It is most extreme on the western coast

The rainfall is copious, and distributed all over the year, but heavier in summer than in winter

**Formosa**, being partly within the tropics, has a tropical insular climate.

## VII. Products and Industries.

Agricultural Products—

The principal crops are **rice, barley, rye, wheat,** and **sugar-cane.**

There are large **mulberry** plantations, and the **silk** and **tea** industries are of great importance

The **bamboo** is, as in China and India, of universal utility.

Other valuable trees are the **camphor tree**, sometimes 50 feet in girth, the **lacquer tree**, from which lacquer varnish is obtained, the **wax-tree**, and the **paper mulberry**.

The camphor tree flourishes specially in Formosa.

Minerals—

Japan is rich in minerals.

There is abundance of **coal** and **iron.**

**Gold, silver, copper, lead, antimony** and **sulphur** are obtained.

Copper is very abundant and very pure.

Industries—

The industries of the country are rapidly developing. **Silk, cotton,** and **matches** are manufactured on a large scale. The old industries of the country, **porcelain, lacquer,** and **bronze work,** still flourish.

## VIII. People.

Population—

The population in 1894 was about 44 millions. Honshiu, the largest island, about half as large again as England and Wales, has nearly the same density of population: 370 to the square mile.

Race, Language, and Religion—

The people are of **Mongolian** type, but their language is quite distinct from those of other Mongolian peoples

The Japanese are a most enterprising race, and have of late years made surprising advances in western civilization They are brave and eager for knowledge, and have many attractive personal qualities. In person they are small and hardy.

The Ainus, the aborigines of Yezo, are a peculiarly hairy race.

**Shintoism** (worship of ancestors and the Mikado) and **Buddhism** are the prevailing religions; but all are tolerated.

## IX. Means of Communication.

The roads are not good, and in the rainy season are nearly impassable

There were 3000 miles of railway open in 1898, connecting the capital with other parts of Honshiu.

Several lines of steamers ply between the coast ports, and there is now a Japanese service of steamers between Yokohama and Bombay.

## X. Trade and Commerce.

The commerce of Japan is chiefly with the United States of America and Great Britain.

EXPORTS—

The exports are **silk, cotton, coal, tea, matches, copper, matting, porcelain cuttle fish, camphor, lacquered ware.**

IMPORTS—

The imports are **raw cotton, rice, sugar, cotton yarn, woollen goods, kerosene, hardware** and **machinery, locomotives.**

## XI. Government and Towns.

The **Mikado** or Emperor, formerly absolute, voluntarily became a constitutional monarch in 1890.

The army and navy, both organized after European models, are highly efficient, as was proved in the late war with China.

Foreign trade is only allowed at certain treaty ports.

**Tokyo** (1,440,000), the imperial capital, formerly called **Yedo,** is situated on the east coast of Honshiu, at the head of the Gulf of Tokyo. Owing to the silt poured into the gulf by the river which flows into it, ships can no longer come up to the city, but it is a busy manufacturing town.

**Yokohama** (193,000), on the west shore of the Gulf of Tokyo, has an excellent harbour and is the chief centre of foreign trade.

**Ozaka** (582,000), the Venice of Japan, the second city in point of size, is situated at the east end of the Inland Sea. Its manufacturing industries are rapidly growing, and it is the centre of the tea and rice trade. As a port it is declining, owing to the shallowness of the harbour.

**Kyoto** (353,000), on the river which connects Lake Biwa with the sea at Ozaka, is the ancient religious capital of the empire, and the former residence of the Mikado. It is noted for its artistic manufactures—porcelain, bronzes, embroideries, etc.

**Nagoya** (244,000), on the sea, east of Kyoto, is a centre of the porcelain trade.

**Kobe** (215,000) is a rising deep-water port opposite Ozaka.

**Hiroshima** (122,000) is the largest town on the inland sea west of Kobe. Its sacred island is one of the wonders of Japan.

**Nagasaki** (107,000), on the west of Kiushiu, has a magnificent harbour. It is the most southern treaty port, and is an important coaling station.

**Hakodate** (78,000) is the chief port in Yezo.

### QUESTIONS

1. Name the boundaries of Korea. What are the characteristics of its government and people?

2. Name and describe the relative positions of the main islands of Japan. What straits separate them from the mainland of Asia?

3. Give some account of the relief of the country. How is it watered?

4. Describe the climate of Japan. Compare it with that of Great Britain.

5. What are the principal vegetable products? Is the mineral wealth of the country of such a nature as to favour the development of manufacturing industries? Name some of these.

6. Mention the most striking characteristics of the Japanese as a people. How are they governed?

7. Name the chief articles of import and export trade. Describe the situation of the leading ports.

8. Describe the situation of, and mention any noteworthy facts regarding the following: The Inland Sea, Formosa, Kobe, Kuro Siwo, Nippon, Ozaka, Fuji-Yama, Tokyo, Lake Biwa, Yezo, Yokohama, Nagoya, Kyoto, Liu-Kiu Islands, Hakodate, the Ainus, Nagasaki.

# RUSSIAN ASIA.

## Introductory.

**Russian Asia** is continuous with Russia in Europe. It contains more than one-third of the continent of Asia, and is about three-fourths of the Russian Empire.

### II. Geographical Situation.

It comprises the whole of Northern Asia, Western Asia east of the Caspian Sea, and the neck of land between the Caspian Sea and the Black Sea. In Russian Turkestan it extends south nearly to lat. 35° N. and on the Pacific to lat 43° N.

### III. Size.

The total area of Russian Asia is 6½ million square miles.
It is therefore nearly as large as South America.

### IV. People.

POPULATION—

The population is 22½ millions—less than that of the Punjab.

### V. Divisions.

The three political divisions of Russian Asia are :

| | Area in square miles | Population. |
|---|---|---|
| Siberia, | 4,833,496, | 5½ millions. |
| Russian Turkestan, | 1,518,825, | 7¾ millions. |
| Caucasia, | 180,843, | 9¼ millions. |

The smallest division, Caucasia, has the largest as well as the densest population, having 46 persons to the square mile.

## SIBERIA.

### I. Geographical Situation.

**Siberia** is the northern portion of Asiatic Russia. It comprises **West Siberia**, the basin of the Ob ; **East Siberia**, the basins of the Yenisei and Lena ; the **Amur basin** and the **Pacific seaboard**.

### II. Boundaries.

On the North : the Arctic Ocean.
On the East : the Bering Sea, the Sea of Okhotsk, and the Japan Sea.
On the South : the Chinese Empire and Russian Turkestan.
On the West : European Russia.

### III. Relief.

The greater part of Siberia is a vast plain sloping to the Arctic Ocean. It rises into mountains and plateaux on the borders of Mongolia. The Transbaikal and Pacific provinces are also mountainous.

In the west, Siberia extends south to the water-parting between the **Ob** and the streams flowing to the **Aral basin.**

East of this water-parting rise the **Altai Mountains** (11,000 feet), and the **Sayan Mountains**, a series of ranges occupying the country between **Lakes Balkhash** and **Baikal.**

The **Yablonovoi Mountains** run north-east through Transbaikalia The **Stanovoi Mountains**, which are merely the eastern edge of the plateau of East Siberia, run from the Amur along the Pacific seaboard to East Cape.

**Kamchatka** has a coast-range of snow-clad active volcanoes rising to near 16,000 feet

## IV. Rivers and Lakes.

Siberia has four rivers upwards of 2000 miles in length ; the **Ob, Yenisei, Lena,** and **Amur.**

The **Ob** (3200 miles) rises in the Altai Mountains and flows north-west and north to the Gulf of Ob It is an extremely sluggish river.

The **Irtish** is the main tributary of the Ob, and also rises in the Altai Mountains.

The **Yenisei** (2900 miles) rises in the Mongolian Plateau and has a generally northern course to the Arctic Ocean.

The **Angara,** its chief tributary, drains **Lake Baikal,** the deepest fresh-water lake in the world.

The **Lena** (2800 miles) rises to the north of Lake Baikal and flows north-east and then north to its delta on the Arctic Ocean

The **Amur** (2700 miles) rises south of the Yablonovoi Mountains. and has a winding easterly course to the Sea of Okhotsk.

**Lakes** are very numerous in the steppes of Western Siberia, but are all gradually drying up.

## V. Climate

The climate of Siberia is very extreme. Intense cold prevails for many months in the winter, intense heat for a few weeks in summer, and the ground in many parts of the northern plains is permanently frozen

The climate is least extreme on the Pacific sea-board, but even at Vladivostok the port is closed by ice in the winter months.

**Verkhoyansk,** just within the Arctic circle, is believed to be the coldest place in the world, the mercury of the thermometer being solid from November to February.

## VI. Products and Industries.

VEGETABLE PRODUCTS—

On the frozen tundras bordering the Arctic Ocean little grows but **mosses, lichens,** and **grasses.** South of this region is the **forest zone,** stretching right across the continent.

In the south **wheat** is largely grown.

The Amur basin, owing to its greater humidity, has a splendid vegetation.

MINERALS—

Siberia is rich in minerals.

**Gold** is obtained in considerable quantities in Eastern Siberia.

**Iron, lead, silver,** and **copper** are also worked.

**Coal** is worked in the Altai region and in Sakhalin Island.

**Fossil ivory** is obtained in large quantities on the shores of the Arctic Ocean and in the Liakhov Islands, from the remains of the mammoth, an extinct species of elephant.

ANIMAL PRODUCTS—

**Stock-breeding**—both horses and cattle—is largely carried on in the open parts of the country. It provides produce of various kinds for export. **Furs** are still a valuable product, though the number of fur-bearing animals is decreasing

Manufactures and mining are in a backward condition.

## VII. Animals.

The most characteristic animals are the fur-bearing animals: the **sable, marten, ermine, fox, bear,** and others.

The Amur and other rivers of the eastern coast teem with fish.

The chief domestic animals are the **fat-tailed sheep** and the **camel** on the steppes, the **reindeer** in the tundras, and the **yak** in the upper Yenisei basin.

## VIII. Means of Communication.

WATERWAYS—

The rivers of Siberia and their tributaries afford waterways extending almost from the Ural Mountains to the Pacific, but they are blocked by ice for a considerable part of the year.

The **Amur** is the most open river, and seems likely to be of most commercial use.

HIGHWAYS—

The most important highway at present is the great caravan route connecting European Russia with the Pacific Ocean and with China.

The **great caravan route** runs from **Ekaterinburg** to **Omsk,** and thence to **Tomsk** and **Irkutsk.**

From Irkutsk one branch runs south to **Kyakhta**, the headquarters of the overland tea trade, on the Chinese frontier; the other runs east over the Yablonovoi range to the Amur, down the Amur to its junction with the Ussuri, and then up the Ussuri valley to Vladivostok.

By these routes the teas and silks of China, and the furs and metals of Siberia, find their way to Eastern Europe.

RAILWAYS—

The **Trans-Siberian Railway** is being pushed on rapidly; the western sections of it are completed, and also sections near Lake Baikal, and in the Ussuri valley 3300 miles out of 4950 miles.

## IX People.

RACES AND RELIGIONS—

The **Slav population** of Siberia, composed of Russian exiles and criminals, and Russian agriculturalists who have settled in the country, is more than four-fifths of the whole. These Russians occupy both banks of the Yenisei, most of the Ob and Irtish, the upper Lena, and the Amur. They are Christians of the Greek Church.

The native inhabitants number less than a million, and are mostly Animists.[1]

## X. Towns

Only two towns have more than 50,000 inhabitants: **Tomsk**, and **Irkutsk**.

**Tobolsk** is a picturesque town on the Irtish.

**Omsk**, higher up the Irtish, is the capital of West Siberia.

**Tomsk**, in the east of the Ob basin, has a large trade, and is the seat of the Siberian University.

**Irkutsk**, on the Angara, where it issues from Lake Baikal, is the largest city of Siberia. It is a centre of the fur trade.

**Omsk, Krasnoyarsk**, a mining centre, **Irkutsk**, and **Chita**, the capital of Transbaikalia, are on the great railway

**Vladivostok**. on the Pacific, is an important naval station. The trans-Siberian railway is completed for some distance up the Ussuri valley to Vladivostok.

# RUSSIAN TURKESTAN.

## I. Introductory.

**Russian Turkestan**, or **Russia Central Asia**, comprises the **Steppe Provinces** in the north, **Turkestan proper** and the

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[1] See Introduction, p. 100.

**Pamir** in the south, and the **trans-Caspian provinces** in the west. **Khiva** and **Bokhara** are Feudatory States.

## II. Boundaries.

On the North · European Russia and Siberia.
On the East . the Chinese Empire.
On the South . Afghanistan and Persia.
On the West . the Caspian Sea and European Russia.

## III. Relief.

The shores of the Caspian Sea and a considerable tract of country to the north of it are, like that sea itself, about 84 feet below sea-level.

North and east of this depression the land slowly rises; the **Aral Sea** is 117 feet above the level of the Caspian, and 33 feet above the Black Sea, and **Lake Balkhash** is 514 feet above ordinary sea-level.

In the east the land rapidly rises to the **Pamir Plateau,** the **Tian Shan Mountains,** and the other ranges on the eastern frontier

With the exception of a tract of country in the north-east which drains to the Irtish, the whole country forms part of the **Aralo-Caspian basin,** in which Lake Balkhash is included.

> The greater part of Russian Turkestan is steppe or desert, but the mountain-valleys in the south-east and east are well watered and fertile, and the higher plateaux afford excellent summer pasturage.

## IV. Rivers and Lakes.

RIVERS—

The country is extremely arid, and many of the rivers are finally absorbed in the soil.

The **Amu-Darya** or **Oxus** (1300 miles) rises in the Pamir at a height of nearly 14,000 feet, and flows generally north-west to the Sea of Aral.

> The **Zarafshan** and **Murghab,** formerly tributaries of the Oxus, no longer reach it, being partly used up in irrigation and partly absorbed by the sands.

The **Sir-Darya** or **Jaxartes** (1150 miles), rises at a height of 12,000 feet in the heart of the Tian Shan Mountains, and flows north-east to the Aral Sea.

The **Ili** rises in the northern Tian Shan in western Mongolia, and flows west and north to Lake Balkhash. Its valley gives easy access to Chinese territory.

The **Ural** (1300 miles) rises in European Russia, flows past Orenburg into Asia, turns south at Uralsk, and flows across the steppe to the Caspian.

LAKES—

**Issik-kul,** 4476 feet above sea-level, in the Tian Shan, is the largest of the upland lakes.

## V. Climate.

The climate is very extreme and very dry. The water-parting between the Aralo-Caspian basin and the basin of the Ob is too low to stop the cold winds from Siberia Hence the cold is very great in winter, and the lower Oxus is frozen for several weeks, although in the latitude of southern Italy The summers are long and hot, and sand-storms are common and greatly dreaded.

## VI. Products.

Where the water supply is abundant the land is very fertile, and produces fine crops of **wheat, rice,** and other grain.

**Cotton, hemp, flax,** and **tobacco** are also grown.

**Fruit** grows in great abundance, and is of excellent quality.

**Apples, pears, plums, peaches, apricots,** the **grape, pomegranate,** and the **melon** all flourish.

There are important **fisheries** on the lower Ural and on the Amur.

## VII. Animals

**Camels, horses, sheep,** and **cattle** are the chief domestic animals.

The Turkoman horse is celebrated.

## VIII. Means of Communication.

HIGHWAYS—

Various caravan tracks across the steppes and deserts connect Europe with Russian and Chinese Turkestan.

The railway system of European Russia terminates at **Orenburg** on the Ural river, but a caravan route proceeds across the Kirghiz steppes and goes up the **Ili valley** to **Kulja** in Chinese territory.

Another caravan route from Orenburg goes south to the **Jaxartes** and follows its valley to **Tashkent,** and thence to **Samarkand** and **Bokhara.**

RAILWAYS—

A railway now starts from the east side of the Caspian, runs south-east near the Persian frontier to **Merv, Bokhara**

**Samarkand,** and Tashkent. A branch goes from Merv to **Kushk,** close to the Afghan frontier near Herat.

## IX. People

RACES AND RELIGIONS—

Most of the people are of **Turki** stock, and are **Muhammadans** by religion.

The chief races are the **Usbegs** in Khiva and Bokhara, the **Kirghiz** in the northern steppes, and the **Turkomans** between the Oxus and the Caspian.

## X. Towns.

**Tashkent** (156,000), the capital, and the headquarters of the Russian administration, is situated on a tributary of the Jaxartes, 1400 feet above sea-level.

**Kokan** (82,000), south-east of Tashkent, is a regularly built town with a large and growing trade

**Bokhara** (75,000), the capital of the Khanat of that name, stands on the Zarafshan, near the point where it runs dry. It has splendid gardens, cotton and other plantations, and a vast bazaar.

**Samarkand** (54,000), the famous capital of Timur, and the site of his tomb, is situated due east of Bokhara, on the left bank of the Zarafshan. Owing to its better water supply Samarkand is increasing in prosperity, while Bokhara is declining.

**Merv,** since the Russian occupation, a rising place on the trans Caspian railway, is situated in the steppe, midway between the Oxus and the Persian frontier.

**Khiva,** the capital of the feudatory state of Khiva, is a small town near the Oxus, north-west of Bokhara, and south of the sea of Aral.

# CAUCASIA.

## I. Geographical Situation.

THIS is the westernmost division of Russian Asia. It occupies the neck of land between the Caspian Sea and the Black Sea. The great mountain range of the Caucasus divides the province into two almost equal parts: **Northern Caucasia** and **Southern Caucasia.**

## II. Boundaries

On the North: a line running from the Sea of Azof across the steppe which lies south of the rivers Volga and Don, to the Caspian Sea.

On the East: the Caspian Sea.

On the South : a line running from the Caspian through Mount Ararat to the Black Sea near Batum.

On the West : the Black Sea and the sea of Azof.

## III. Size.

Caucasia is a little smaller than Bengal. The distance between the Caspian Sea and the Black Sea varies from 350 miles to nearly 500 miles.

The length of the province from north to south is about 400 miles.

## IV. Relief.

The northern boundary of Caucasia follows a depression which probably marks the site of a strait formerly connecting the Sea of Azof with the Caspian This depression, which connects the River Manych, a tributary of the Don, with the lower basin of the Kuma, which flows to the Caspian, is called the **Kuma-Manych Depression.** South of this natural boundary between Europe and Asia the country consists of low-lying steppe, until the snow-clad range of the Caucasus rises abruptly from the plains.

The **Caucasus Range**, about 700 miles in length, runs obliquely across Caucasia, from the Caspian to the Black Sea.

The highest peak, **Mount Elbruz**, rises to 18,526 feet, and a number of other peaks exceed 16,000 feet

To the south the range again descends abruptly to valleys which separate it almost completely from the southern highlands of **Georgia** and **Armenia**, which culminate on the southern boundary in Mount Ararat, 16,925 feet.

## V. Rivers and Lakes.

RIVERS —

The **Kuban** and **Terek** drain the northern slopes of the Caucasus.

South of the Caucasus is the **Kura**, the largest river of Caucasia, which flows to the Caspian.

It is joined by the **Aras**, a large river from the Armenian highlands, which forms, for a considerable part of its course, the boundary between Caucasia and Persia.

LAKES—

There are several lakes in the Armenian highlands, of which the largest is **Lake Gokcha**, a fresh-water lake, 6,400 feet above sea-level. Its surplus waters flow to the Aras.

## VI. Climate.

Owing to the geographical conditions, the climate of Caucasia is very diversified. The northern plains, exposed to the winds sweeping from the Russian steppes, have a dry climate, colder in winter and hotter in summer than on the other side of the Caucasus, where the sheltered valleys of the Rion and Kura are most productive.

The rainfall, again, is much greater in the west than in the east, as the rain-bearing winds blow from the Black Sea. In the basin of the lower Kura, there is sometimes no rain for six months at a time.

## VII. Products.

AGRICULTURAL PRODUCTS—

The low country on both sides of the Caucasus produces abundant crops of **rice, wheat,** and **maize,** where the water supply is ample. In the highlands, there is little cultivation except in the sheltered valleys where **millet** is grown

VEGETATION—

The **peach, apricot, cherry,** and others fruit trees flourish, especially in the Rion valley, while, in the south, the **orange, citron, vine,** and **mulberry** arrive at great perfection.

Both sides of the Caucasus are covered below the snow-line with magnificent forest.

The Armenian highlands, probably owing to the drier climate, have much less vegetation.

MINERALS—

**Gold, copper, coal,** and **salt** are obtained, but by far the most important mineral product is **kerosene,** which is obtained in enormous quantities from wells near Baku, on the Caspian, and is largely exported to India.

## VIII. People.

POPULATION—

The population of Caucasia in 1897 was 9¼ millions, giving 51 persons to the square mile. Of this population Northern Caucasia contained about 3¾ millions, and Southern Caucasia about 5½ millions. Hence, Southern Caucasia is much the more thickly populated.

RACES AND RELIGIONS—

The inhabitants are very mixed as to race, and though the bulk of the population is **Christian**, there is a considerable proportion of **Muhammadans.**

The northern plains are chiefly inhabited by **Russians** and **Tatars**; the south and south-west by **Armenians** and others of Iranian stock.

The **Georgians**, the descendants of the original inhabitants of the country, occupy the highlands of the upper Kura.

The **Circassians**, formerly a warlike and powerful people, still occupy tracts of country to the south of the Kuban.

## IX. Means of Communication.

A railway connects **Vladikavkaz** with the main Russian railway system, and with the Caspian Sea.

In Southern Caucasia a line runs from **Batum** and **Poti** on the Black Sea to **Tiflis**, and on to **Baku** on the Caspian

## X. Towns.

**Tiflis** (160,000), the capital of Caucasia, and also the largest town, is situated south of the Caucasus on the left bank of the Kura, not far from the ancient capital of Georgia. The town is partly European and partly Asiatic, both in appearance and population

**Baku** (112,000), on the Caspian, south of the well-marked promontory of **Cape Apsheron**, is the centre of the kerosene industry, and is connected by railway with Batum.

**Ekaterinodar** (65,000) is the largest town in Northern Caucasia, but **Vladikavkaz** (43,000), owing to its commanding position, is the most rising town.

**Batum** (28,000) is the chief port on the Black Sea.

**Kars** (20,000), in the hill country, south-east of Batum, is a historic fortress, in a strong position.

**Erivan** is the old capital of Russian Armenia, but **Alexandrapol** (32,000), a strongly fortified place, is now the largest town in the Aras basin.

### Questions.

1. What is the general nature of the relief of Siberia? Mark the courses of the great rivers upon a sketch map, and say where they have their origin. Also mark the Altai, Yablonovoi, and Stanovoi Mountains.

2. What is meant by saying that the climate of Siberia is very extreme? Where in Russian Asia is it most equable, and why?

3. Name the principal mineral and animal products of Siberia?

4. Trace on a sketch map the caravan routes across Siberia and Russian Turkestan; also mark the course of the Trans-Siberian Railway.

5. What is the Aralo-Caspian depression? Describe the courses of the rivers that feed the Sea of Aral and Lake Balkhash.

6. What are the boundaries of the Russian province of Caucasia? How does the country north of the Caucasus differ in its relief from that south of the Caucasus?

7. Name the rivers of Caucasia that flow to the Black Sea and the Caspian Sea respectively.

8. Describe the climate of Caucasia. How does it determine the nature of the vegetation?

9. What and where are Tobolsk, Batum, Lake Gokcha, Samarkand, Issik-kul, Sakhalin, the Kuma-Manych Depression, Kamchatka, Elbruz, Bokhara, the Murghab, the Liakhov Islands, the Juxartes, Tiflis, the Ussuri, Verkhoyansk, Erivan, the Kura, the Irtish?

# TURKISH ASIA.

The Turkish Empire in Asia comprises the peninsula of Asia Minor, the basin of the Euphrates and Tigris, the eastern seaboard of the Mediterranean, and the eastern seaboard of the Red Sea. It thus includes the whole of south-western Asia west of a line drawn from the head of the Persian Gulf to the eastern end of the Black Sea, with the exception of the interior of the great peninsula of Arabia, and its southern and south-eastern seaboard. The total area is about 650,000 square miles, and the estimated population 17½ millions.

The political divisions of Turkish Asia are:

| | Area in square miles. | Population. |
|---|---|---|
| Asia Minor, | 194,389, | 9¼ millions. |
| Armenia and Kurdistan, | 72,491, | 2½ millions. |
| Mesopotamia, | 100,205, | 1½ millions. |
| Syria and Palestine, | 109,509, | 3¼ millions. |
| Turkish Arabia, | 173,700, | 1 million. |

These returns of population are, however, of doubtful accuracy, and can only be regarded as being something like the truth.

## ASIA MINOR.

### I. Geographical Situation.

Asia Minor (Anatolia, the Levant[1]), is a peninsula running west from the mainland of the continent.

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[1] Both these words have the same meaning as Orient, *the East*. The name Levant, which is of Italian origin, is also applied to the eastern part of the Mediterranean.

## II. Boundaries.

On the North: the Sea of Marmora and the Black Sea.
On the East: Armenia and Kurdistan.
On the South: Syria and the Mediterranean.
On the West: the Ægean Sea or Archipelago.

## III. Coasts and Islands.

COASTS—

The northern coast is fairly regular, and has no good harbour.

The **Bosphorus** connects the Black Sea with the Sea of Marmora, and the **Dardanelles** or **Hellespont** connect the Sea of Marmora with the Ægean Sea.

ISLANDS—

The western coast is very broken, and the numerous islands of the **Sporades** group lie off it, of which the largest are **Lemnos, Mitylene,** south of **Cape Baba,** the westernmost point of Asia, **Khios, Samos,** and **Rhodes.**

The southern coast has two large openings; the **Gulf of Adalia,** and, in the north-east corner of the Mediterranean, the **Gulf of Iskanderun,** towards which points the island of **Cyprus,** the third largest in the Mediterranean, which, since 1878, has been under British rule.

## IV. Relief.

The greater part of Asia Minor is a plateau, continuous with the highlands of Armenia and Kurdistan farther east. It has an average height of between 3000 and 4000 feet, and is skirted on the south by the **Taurus Mountains,** rising to 11,000 feet, and on the north by the **Pontic Mountains,** which run along the coast of the Black Sea from near Batum to the Bosphorus. A famous pass, called the "Cilician Gates," affords a passage over the Taurus from Asia Minor to Syria.

> The ranges running north-east from the Cilician Gates are known as the **Anti-Taurus**

## V. Rivers and Lakes.

RIVERS—

The chief rivers flow to the Black Sea, and the largest of these is the **Kizil-Irmak** (800 miles) The rivers flowing to the Ægean and the Mediterranean are small, owing to the nearness to the coast of the ranges in which they rise.

LAKES—

There are several lakes both salt and fresh water, in the interior of the plateau which receive the inland drainage. The largest of these is the salt **Tuz-gol.**

## VI. Climate.

The climate of the western sea-board is exceedingly pleasant, and the north coast has damp summers and cold winters with an abundant rainfall. The central plateau has a more extreme climate, the winters being severe and the summers hot.

## VII. Products

VEGETABLE—

**Forest trees** flourish on the moist northern sea-board, as also **fruit trees** of various kinds.

The Taurus range in the south is largely covered with **pine forest**, from which **turpentine** is obtained. But the general aspect of the interior plateau is bleak.

The southern valleys produce **grapes, olives,** and **figs** in abundance.

**Barley** and **cotton** are grown for export.

MINERAL—

**Copper, silver, lead, iron,** and **coal,** are found, but mining and other industries are in a backward state.

## VIII. Animals.

The **buffalo** is commonly employed in agriculture, and the **camel** is the chief beast of burden.

The **Angora goat**, famous for the fine quality of its hair (mohair), flourishes west of the Kizil-Irmak.

## IX. People.

RACES—

**Turks** form a larger proportion of the population in Asia Minor than in any other part of the Turkish Empire, and in the western provinces they are a majority of the population. But everywhere the struggle for existence with the **Greeks,** a more enterprising race with strong commercial instincts, is very keen.

In the eastern districts are many **Armenians, Kurds, Arabs and Jews.**

RELIGIONS—

The Turks and Kurds are **Sunni Muhammadans.** The Greeks and Armenians are **Christians.**

## X. Means of Communication.

There is a great want of good roads, but, of late years, a good deal of railway has been constructed. Scutari is now connected with Angora and Konia (the ancient Iconium), and from Smyrna lines branch off to several places in the interior. These lines may be considered as the beginning of a railway system which may one day extend to the Euphrates Valley, Persia, and India.

## XI. Towns.

**Smyrna** (200,000), the chief town in Asia Minor, is well situated at the head of the Gulf of Smyrna, which opens into the Ægean Sea. It is an important port and a great commercial centre Greeks form the majority of the population.

**Broussa** (76,000), at the foot of Mount Olympus, is the centre of a silk industry It was the Turkish capital before the capture of Constantinople

**Scutari** (30,000) is on the Bosphorus, opposite Constantinople, of which it is practically a suburb

**Angora** (30,000), in the interior, is the centre of an important trade in mohair, the silk-like hair of the Angora goat.

**Afiun-Karahissar**, connected by rail with Scutari, is the centre of an opium industry.

**Trebizond** (35,000) is a flourishing port on the Black Sea, and the terminus of the overland trade route to Armenia and Persia.

**Kaisarieh** (72,000), the ancient Cæsarea, is at the junction of several trade routes, and has still some importance for that reason

**Adana** (45,000), in the productive valley of the Sihun, is connected by rail with **Tarsus** and with **Mersina** on the coast.

**Sinope** is the only safe harbour on the Black Sea.

Asia Minor contains the sites of numerous cities famous in ancient history, most of which are now mere names, or of little importance.

Among these are **Troy**, **Sardis**, **Ephesus**, **Miletus**, **Rhodes**, **Tarsus**, **Antioch**, and others.

**Cyprus** (British) is 140 miles long by 40 to 50 miles broad. The inhabitants are mostly Greek, and the island is famous for its relics of former civilisations.

**Nicosia** is the capital and largest town.

**Lanarka**, on the south coast, is the chief trading centre. The principal products are, cotton, wine, olive oil, silk, and sponges.

## ARMENIA AND KURDISTAN.

### I. Introductory.

THIS division of Turkish Asia is the highland region which forms the upper basin of the Euphrates and Tigris The northern portion of ancient Armenia now belongs to Russia, and is included in Caucasia.

### II. Relief and Drainage.

Turkish Armenia and Kurdistan is, for the most part, a plateau, varying from 4000 to 7000 feet above sea-level. It is much more rugged and irregular than the plateau of Asia Minor, with which it is continuous.

The volcanic snow-capped **Ararat** rises on the borders of Caucasia and Persia.

Most of the drainage of the country flows to the Euphrates and Tigris, which rise within it, and break from the southern border of Kurdistan into the plains of Mesopotamia

In the east, **Lake Van,** a large salt-water lake, 5000 feet above sea-level, with densely wooded mountains on three sides of it, occupies the centre of a beautiful and fertile basin.

### III. Climate.

The climate of Armenia is extreme, the cold of the winters and the heat of the summers being alike severe. Kurdistan, lying farther south, has a less extreme climate. Spring and autumn are pleasant everywhere.

### IV. Products.

Armenia has very little forest; Kurdistan is often well wooded. The valleys grow **fruit** and **cereals,** and, in the south, **tobacco, cotton, grapes, melons,** etc.

### V. People.

RACES AND RELIGIONS—

The Armenians, whose national name is **Hai,** have long lost their political unity. Their country is now divided between Russia, Turkey, and Persia. They are Christians, and have suffered greatly from Turkish persecutions, which have much reduced their numbers. They are a peaceful people, and are very keen traders.

Many Armenians emigrate from Persia to India, and do well.

The **Kurds** are Muhammadans, and are a nomad and lawless race, in many parts barely acknowledging Turkish supremacy.

## VI. Towns.

**Ezerum** (60,000), the capital of Turkish Armenia, is situated near the most northerly source of the Euphrates, 100 miles south-east of Trebizond. Its chief importance is due to its being on the trade route from Persia to the Black Sea. The bulk of the inhabitants are Muhammadans.

**Van** (30,000) is picturesquely situated on the east side of Lake Van Most of the inhabitants are Armenians It has suffered greatly from the ravages of Kurdish marauders.

**Diarbekir** (35,000), situated on the Tigris below the point where it leaves the Kurdistan plateau, has a considerable trade by river and caravan

# MESOPOTAMIA.[1]

## I. Introductory.

PROPERLY speaking, Mesopotamia is the country between the middle courses of the Euphrates and Tigris, and the name has had this signification from very ancient times.

As a modern political division Mesopotamia embraces the whole Euphrates-Tigris basin south of Kurdistan, and a strip of country extending some way along the west side of the Persian Gulf.

## II. Relief.

The plains of Mesopotamia decline gradually from a height of about 1500 feet near the Kurdistan border to the head of the Persian Gulf. They are of extraordinary fertility, and the number and size of the ruins scattered over the land testify to its once flourishing condition.

Nineveh and Babylon especially were magnificent cities of enormous size, and a very complete system of irrigation enabled the country to support a vast population.

## III. Rivers.

The river **Euphrates** is formed by the union of its head streams in Armenia, and it has a course through Armenia and

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[1] Mesopotamia has the same meaning as Doab: "the land between two rivers."

Kurdistan of about 300 miles. It becomes navigable by small steamers shortly after entering the plains of Mesopotamia, more than 1000 miles from the sea.

The **Tigris** is formed by the union of its head streams in Kurdistan. It has a much more rapid current than the Euphrates, and its navigation is all down stream as far as Bagdad, up to which place steamers of considerable size ascend.

Below Bagdad several channels connect the two rivers, which finally unite at Kurnah, about 100 miles from the Persian Gulf, to form the **Shat-el-Arab.**

## IV. Climate.

The winters of Mesopotamia are mild and short; the summers long and sultry.

The rainfall is scanty on the whole, but there are good winter rains in Upper Mesopotamia.

## V. Products.

The vegetation is largely tropical, and the **date-palm** is characteristic.

The best dates come from the neighbourhood of the Shat-el-Arab.

Agriculture is now-a-days in a most backward state, and the inhabitants, chiefly **Kurdish** and **Arab** nomads, depend for their subsistence on the produce of their flocks and herds.

Since the greater part of the country consists of alluvial plain, minerals are wanting.

## VI. People.

The **Bedouin Arabs,** who in South Mesopotamia are practically masters of the country outside the towns, are very lawless. They have a splendid breed of **Arab horses,** which are largely exported to Bombay.

## VII. Towns.

Probably owing to the unhealthiness in modern times of the neighbourhood of the Euphrates, nearly all the large towns are on the Tigris.

**Mosul** (61,000), on the Tigris in Upper Mesopotamia, was once celebrated for its cottons, and gave its name to *muslin.* It is near the site of the ancient **Nineveh.**

**Bagdad** (145,000), once the famous capital of the Caliphs, the successors of Muhammad, is still an important commercial centre.

**Kerbela**, west of the Euphrates and south-west of Bagdad, contains the tomb of Hosein, the grandson of the Prophet, and is held in great veneration by Shiah Muhammadans.

**Basra** or **Bussora** on the Shat-el-Arab, 50 miles below the junction of the Euphrates and Tigris, is the port of Mesopotamia. English steamers ply between it and Bagdad.

## SYRIA AND PALESTINE.

### I. Geographical Situation

THIS province of Turkish Asia occupies the sea-board at the eastern end of the Mediterranean, and extends from the Taurus Mountains in the north to the Sinai Peninsula, between the Gulfs of Suez and Akaba, in the south.

East of it lies the great **Syrian Desert** which extends to the Euphrates basin. The coast line runs nearly north and south from the Gulf of Iskanderun to the borders of Egypt, and is little broken by promontories or bays.

**Syria** is the northern portion of the province, and the country south of Lebanon is **Palestine,** the Holy Land of Christianity.

### II. Relief

Without being a regular plateau the country is rugged and mountainous. In the north the ranges of **Lebanon** and **Anti-Lebanon** run parallel to one another and the coast, separated by the valley of the Leontes.

Some of the peaks of Lebanon rise above the snow line.[1]

Anti-Lebanon, which is the inner range, culminates in **Mount Hermon,** at the southern end of the range.

South of Lebanon the ranges are of less height, but the general direction of the central highlands is still north and south. The descent is steepest towards the River Jordan in the east.

In the west the hill country descends to a plain of varying width along the coast.

Southward from the well-marked promontory of **Mount Carmel,** midway down the coast, where the hills advance to the coast-line, the uplands gradually recede, leaving between them and the sea the fertile **Plain of Sharon** and the low-country of **Philistia.**

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[1] Lebanon means "White Mountains."

## III. Rivers and Lakes.

The four chief rivers of the province rise in the Lebanon ranges.

The **Orontes** flows north, and then west through the Syrian Antioch to the Mediterranean.

The **Abana** flows east to a lake beyond Damascus.

The **Jordan** flows south.

The **Leontes** flows south, and then west to the Mediterranean.

The **Jordan** rises on the western slopes of Anti-Lebanon, and flows south to the small, swampy Lake **Merom**. Thence it falls rapidly to **Lake Tiberias (Sea of Galilee or Gennesareth)**.

From Tiberias the Jordan takes a southward course of about 200 miles to the **Dead Sea**.

The chasm, called **El Ghor**, which forms the Jordan valley from Lake Merom to the Dead Sea, is the longest and deepest depression on the earth's surface.

**Lake Tiberias** is surrounded by hills, and its waters, as of old, abound in fish.

The **Dead Sea**, about 50 miles long, and on an average 8 miles wide, is surrounded by bare, rocky hills, and has no outlet. Its waters are extremely salt and contain no fish; they are so buoyant that the human body cannot sink in them.

Lake Tiberias is 682 feet and the Dead Sea 1292 feet below the Mediterranean, while Merom is 8 feet above it.

## IV. Climate

The climate of Syria and Palestine varies with the elevation of the land, the temperatures on the uplands and in the deep valleys being very different. The uplands have severe winters and moderate summers. Along the coast and in the Jordan valley the summers are very hot, and the winters mild.

## V. Products.

Small groves of **cedars** are still found on Lebanon, and some of the northern hills are well wooded; in the south the vegetation on the hills is scanty.

The **vine, olive, fig, orange, mulberry**, and **dates** flourish.

The **tobacco** of the Latakia district in the north is celebrated for its excellent flavour.

The country is poor in minerals. Silk is manufactured at Damascus and in the Lebanon.

## VI. People.

The inhabitants are nearly all of **Semitic** stock, and chiefly of **Arab** descent.

The number of **Jews** in Palestine is small.

## VII. Towns.

**Damascus** (150,000), one of the oldest cities in the world, is situated among gardens and orchards 2300 feet above the sea, in a district rendered extremely fertile by the waters of the Abana and Pharpar. It is a great trade centre, and the bazaars are stocked with all the produce of the east.

**Aleppo** (127,000) lies north of Damascus, between the river Euphrates and Antioch. It is well built, and the bazaars are very extensive

**Antioch**, the once magnificent capital of Syria is a decayed town on the Orontes

**Beyrut** (120,000), the chief port of Syria, and next to Smyrna the largest in the Levant, stands on a fine bay lying below Lebanon It is connected by railway with Damascus.

**Tripoli** and **Latakia** are ports north of Beyrut

**Alexandretta**, on the Gulf of Iskenderun, is the port of Aleppo.

**Jaffa** (Joppa) is the chief port of Palestine, and has a large trade in oranges It is connected with Jerusalem by railway

**Jerusalem** (41,000), the capital of Palestine, and the Holy City of Christianity, stands on a rocky plateau 2600 feet above the Mediterranean, and nearly 4000 feet above the Dead Sea Since the opening of the railway it is a place of growing trade.

# TURKISH ARABIA.

## I. Introductory.

The part of the peninsula of Arabia which borders on the Red Sea is divided between two Turkish provinces. **Hedjaz** to the north, and **Yemen** to the south.

## II. Relief.

A well defined mountain range runs near the coast of the Red Sea at a varying distance from it, and reaches a height of over 8000 feet to the south of Mecca Between this range and the coast, extending from above Jiddah to Mocha, is a strip of plain called the **Tehama** or Hot Land. In Yemen, the range broadens out into a highland country, rising in the extreme south-west corner of the peninsula to upwards of 10,000 feet.

**Hedjaz** is a sandy, barren, and hot country.

**Yemen** is a rich and well-watered land, far more thickly populated than any other part of Arabia.

## III. Climate.

The climate of Turkish Arabia is, for the most part, intensely hot and dry, resembling that of Africa on the opposite shores of the Red Sea The highlands of Yemen have a moderate climate and a fair rainfall, though the latter sometimes fails.

## IV. Products.

The chief vegetable products are the **date, coffee** (indigenous in Yemen), **frankincense, myrrh, gum-arabic, balsam,** and **senna.**
Excellent **fruit** is grown in Yemen; also **maize, wheat, barley, lentils,** and other food crops.

## V. People

The Arab inhabitants of these provinces are, especially in Yemen, far more settled than in most other parts of Arabia, where the Bedouin nomads form the majority of the population.

## VI. Towns.

**Mecca** (60,000), the Holy City of Muhammadanism, is situated in a narrow, sandy valley, surrounded by barren mountains, about 65 miles from Jiddah.

As guardian of the sacred Kaaba the Sherif of Mecca is a personage of great power and dignity, and receives a large stipend from the Turkish Government

**Jiddah** (30,000), the port of Mecca, is about half-way down the east coast of the Red Sea. It has a great pilgrim traffic during the spring months.

**Medina** (20,000), venerated as the burial place of the Prophet, is situated about 3000 feet above sea-level, 240 miles north of Mecca.

Mecca and Medina are the chief places of Muhammadan pilgrimage, and the Sultan's sovereignty over them gives him his chief title to the "Caliphate," or headship of Muhammadanism.

**Sana** (50,000), the capital of Yemen, containing many Jews, is the finest city in the whole of the peninsula. It stands in a rich valley, over 7000 feet above sea-level, about 260 miles north of Aden.

**Hodeidah** (30,000), the chief port of Yemen, 145 miles south-west of Sana, exports hide and coffee.

**Mocha**, north of the Straits of Bab-el-Mandeb, was formerly famous for its coffee.

### QUESTIONS.

1. By what other names is Asia Minor known? What is the nature of its coast-line? Name the largest islands that lie off it?

2. The rivers of Asia Minor have, as a rule, short courses, especially those that flow to the Aegean and Mediterranean seas. What can we conclude from this as to the relief of the country?
3. Give some account of various products of Asia Minor.
4. Where are Armenia and Kurdistan? What sort of countries are they?
5. What is the meaning of the name 'Mesopotamia'? To what part of Turkish Asia is the name applied?
6. What is the most remarkable feature of the physical geography of Palestine?
7. Give some account of the climate and products of Turkish Arabia
8. Describe as accurately as you can the position of the following towns, and mention anything of interest that you know about them:—Smyrna, Trebizond, Erzerum, Diarbekir, Bagdad, Basra, Damascus, Jaffa, Jerusalem, Mecca, Scutari, Medina, Jiddah, Beyrut, Alexandretta.
9. Where and what are Sana, the Tehama, Aleppo, El Ghor, Carmel, Abana, Mosul, Kerbela, Shat-et-Arab, Van, Angora, Kaisarieh, Broussa, Tuz-gol, Kizil-Irmak, Sporades, Adalia?

# INDEPENDENT ARABIA

## I. Introductory.

ARABIA is the largest peninsula in the world It lies south of the parallel of lat 30° N

## II. Boundaries.

**On the North:** Palestine, the Syrian desert, and Mesopotamia.
**On the East:** the Persian Gulf and the Gulf of Oman.
**On the South:** the Arabian Sea and the Gulf of Aden.
**On the West:** the Red Sea and the Isthmus of Suez.

## III. Size and Shape.

The tropic of Cancer, which passes close to Muscat on the Gulf of Oman, cuts the country nearly in half

The length of Arabia is about 1500 miles, and its average width, from the Red Sea to the Persian Gulf, about 700 miles.

**The total area is estimated at about one million square miles, of which less than one-fifth is included in the Turkish provinces, so that the greater part of Arabia is independent of Turkey.**

**Oman**, in the south-east of the peninsula, is the largest native state.
The **Sinai Peninsula**, between the Gulfs of Akaba and Suez is administered by Egypt.

## IV. Coast.

The coast has few harbours, and in the Red Sea is bordered by numerous coral reefs, dangerous to navigation.

From the Straits of **Bab-el-Mandeb** to the **Straits of Ormuz**, the coast is usually high and rocky; the shores of the Persian Gulf are low and flat

The chief islands are **Perim** (British) in the Straits of Bab-el-Mandeb, and the **Bahrein Archipelago** in the Persian Gulf. The latter is under British protection, and has a large pearl fishery.

The most prominent headlands are **Ras-el-Had**, the easternmost point, and **Cape Massandum** between the Gulf of Oman and the Persian Gulf.

## V. Relief.

Very little is known of the interior It is a huge, arid plateau, with an average elevation of about 3000 feet above the sea In climate, in its plants and animals, and in general geographical features it rather resembles the neighbouring portion of Africa, the intervening Red Sea being too narrow to have much influence upon its physical conditions.

The general slope of the country is to the north-east and east. The highlands of the interior, known as **Nejd**, comprise all the land that is capable of cultivation.

To the north is the **Nefud**, a desert of red sand; to the south an uninterrupted and perfectly sterile desert stretches from Mecca to Oman on the Persian Gulf

The southern coast has disconnected heights running near it, and along the Gulf of Oman is a range rising to upwards of 6000 feet.

## VI. Climate.

The climate is intensely hot and dry, the shores of the Red Sea and Persian Gulf and the lower-lying country between them being one of the hottest regions in the world. The hot, poisonous wind known as the *simum*, the terror of travellers in the desert, is, however, less common than was formerly supposed

In the north rain only falls at intervals of several years.

The highlands of the Nejd Oman have a healthy and moderate climate.

## VII. Products.

The **date** is the most important vegetable product, and forms the chief food of the inhabitants.

## VIII. Plants and Animals.

PLANTS—

**Aromatic** and **medicinal plants** abound along the coast.

**Cotton** is cultivated in Oman.

ANIMALS—

The **locust** abounds, and is used as food.

By far the most important domestic animal is the **camel.** Without it the deserts would be uninhabitable. The Nejd camel is the most enduring, and can go four or five days without water Oman is celebrated for its **dromedaries.**

The **Arab horse** is famous, but is now rare in Arabia itself, being most largely bred in Mesopotamia.

## IX. People.

POPULATION--

The population of Independent Arabia is not certainly known, but it is supposed to be about five millions.

RACE—

The Arabs are all of **Semitic** stock, and akin, therefore, to the Jews.

LANGUAGE AND RELIGION

The universal language is **Arabic**; and the people are **Sunni Muhammadans** by religion They may be divided into two classes: the settled population (agriculturalists and the inhabitants of the towns), and the Bedouin Arabs of the desert, who live in tents, and change from one camping-ground to another according to the season

The inhabitants of the Nejd mostly belong to a distinct Muhammadan sect—the **Wahabis.**

## X. Means of Communication

In such a country as Arabia towns cannot be numerous or large There are no roads in the proper sense of the word, but the country is crossed by caravan tracks, along which pilgrims and merchants make their way under the purchased protection of the Bedouins of the districts traversed.

The two main tracks lead from **Damascus** to **Medina** and **Mecca,** and from **Persia** through **Baghdad** and **Kerbela** to the same goal.

## XI. Towns

**Muscat** is the capital of Oman, and the residence of the Sultan. It has a good harbour, and has a considerable trade in dried fish and fruit, notwithstanding its extreme heat and unhealthiness.

**Riad** (35,000) is the capital of the Wahabi State in the Nejd, 450 miles north-east of Mecca.

**Aden** is a British settlement, subject to the Bombay government, situated about 100 miles east of the Straits of Bab-el-Mandeb. It occupies a volcanic peninsula crowned with heights of fantastic shape. It is an important coaling station and is strongly fortified. The town is situated in the crater of an extinct volcano, and has 42,000 inhabitants.

### QUESTIONS.

1. How is Arabia situated with regard to the tropics? Compare its area with that of Peninsular India, and with that of the Indo-China Peninsula.

2 Name and give the position of the principal capes, straits, and islands.

3. What do you know of the physical configuration of the interior of Arabia? In what respects does it resemble the nearest portion of Africa?

4. What are the most characteristic products of Arabia?

5. Give some account of the people of Arabia. Why should we not expect to find many or large towns?

6. What and where are Riad, Muscat, Aden, the Nejd, the Nefud, Sinai, Perim, Oman, and the Bahrein Archipelago?

# PERSIA.

## I. Introductory.

PERSIA is the western and larger portion of the Iranian plateau, which extends from the highlands of Armenia and Kurdistan in the west, to the basin of the Indus in the east.

The country lies entirely outside the tropics, though its southern coast on the Arabian Sea runs within three degrees of the Tropic of Cancer.

Northwards, on the borders of Caucasia, it extends almost to lat. 40°—the latitude of Peking and Madrid.

## II. Boundaries.

On the North: Caucasia, the Caspian Sea, and Russian Turkestan.

On the East: Afghanistan and Baluchistan.

On the South: the Arabian Sea, the Gulf of Oman, and the Persian Gulf.

On the West: Mesopotamia and Turkish Armenia and Kurdistan.

## III. Size and Shape.

Its area is 628,000 square miles.

In shape, Persia is roughly a triangle whose vertex is Sarakhs, on the frontier of Russian Turkestan, south of Merv. One side runs west to near Mount Ararat, and the other runs south to the Arabian Sea at Gwatar Bay The sides of the triangle are each about 700 miles in length, and the base is about 1000 miles

## IV. Coasts

The coast-line of Persia, both on the Arabian and Caspian Seas, and on the Gulfs of Persia and Oman is regular, and very few islands lie off it.

**Kishm**, north of the Strait of Ormuz, is the largest island, and is claimed by the Sultan of Oman.

**Ormuz**, which gives its name to the strait, is a small island north east of Kishm In the 14th and 15th centuries it was a great centre of commerce, and was famous for its wealth and splendour.

## V. Relief

PLATEAUX—

The part of the Iranian plateau which is included in Persia has an average elevation of from 3000 to 5000 feet, and rises into numerous lofty mountain ranges generally running north-west and south east. The highest ranges are near the edges of the plateau, so that Persia forms part of a high basin, and nearly two-thirds of the whole country drains inland

MOUNTAINS—

The **Elburz Mountains** fringe the south coast of the Caspian Sea, and rise in **Demavend**, a volcanic peak, to upwards of 19,000 feet.

In the north-west the mountain system of Armenia and Kurdistan extends into Persia, and runs south-east, parallel to the Tigris and the Persian Gulf, as far as Shiraz. It has snow-clad peaks rising to near 15,000 feet.

In the north-east, ranges rising to 11,000 feet separate Persia from the Turkestan depression

In the interior there are large areas of comparative depression lying not more than 1400 feet above sea-level, in which grassy plains gradually merge into sandy wastes and salt marshes, called **Kavirs**.

The **Great Salt Desert of Khorasan**, and the **Great Sand Desert** south-east of it, occupy the greater part of eastern Persia.

## VI. Rivers and Lakes.

RIVERS—

The only navigable river in Persia is the **Karun**, which rises in the mountains east of the Euphrates-Tigris basin, and, after a circuitous course through them, joins the Shat-el-Arab 40 miles from the Persian Gulf.

No navigable river reaches the sea between the Shat-el-Arab and the Indus.

The largest river flowing through Persia to the Caspian Sea is the **Kizil-Uzen**, which rises in the mountains on the borders of Kurdistan The rivers which drain inland are small, and most of them become brackish before they reach the lakes into which they flow, or lose themselves in the deserts of the north and east.

LAKES—

The chief lakes are **Urumiya** in the northern highlands, a very salt and shallow lake nearly 5000 feet above the sea, **Niriz** (salt) in the south, and **Sistan** or **Hamun**, a large swampy lake on the borders of Afghanistan and Baluchistan, whose waters are fresh near the mouths of the rivers which flow into it, and brackish elsewhere. Most of it dries up in the hot weather.

## VII. Climate.

The climate of Persia is, on the whole, extreme, being very dry, and in summer, very hot, while the winter on the uplands is severe. On the shores of the Caspian rain is abundant, and the moist heat produces a rich vegetation The shores of the Persian Gulf and the district around Lake Hamun are notoriously hot and unhealthy The prevailing winds are north-west and south-east, the direction in which the mountain ranges run.

## VIII. Products

The chief food-crops are **wheat** and **barley**.

**Rice, cotton, sugar, madder, indigo, tobacco, opium, wool,** and **silk** are also produced.

Medicinal and dye-yielding plants abound.

**Grapes, figs,** and other fruits flourish in the fertile tracts.

The wine of **Shiraz** is well known for its excellence.

Only a small proportion of the whole area of Persia is really fertile land. Such is the country between the Elburz mountains and the Caspian, the Urumiya basin, and the upland plains of Isfahan and Shiraz in the highlands of the south-west.

A novel system of irrigation is largely practised. Wells are sunk and connected by underground passages (**Kânats**), by means of which the water is conducted to a point where the slope of the ground allows it to flow out on the surface.

Pasture land is common, but a large part of Persia is mere desert.

Forest is only found on the northern slopes of the Elburz mountains.

Persia is known to be rich in minerals, especially **iron, lead, copper, coal,** and **turquoise,** but mines are few.

The famous Persian carpets are all made by hand, and have a great variety of designs **Namads**, or felts made of camel's hair, are largely made; also excellent **shawls.**

## IX. Animals.

**Wild animals** abound on the Caspian seaboard.

The **lion** is found in the south-west.

The **goat, bustard,** and **pheasant**, are indigenous.

The Persian **horse** resembles the Arab, and the Persian **cat is of** great beauty.

The **fat-tailed sheep** provides most of the animal food. Its wool is of good quality, and, with goat's wool, may be considered the principal natural product of the country.

## X. People.

Population—

The population of Persia is estimated at nine millions, or about 15 persons to the square mile.

Races—

Unlike Arabia, whose inhabitants are all of one stock, Persia contains a variety of races. The bulk of the inhabitants are of the old **Iranian stock,** which is Aryan, but there are nearly a million inhabitants of **Mongolo-Tartar** stock, besides **Arabs, Armenians,** and **Jews.**

About two millions of the population belong to nomad pastoral tribes.

The Persians show their descent from an ancient and civilized race by their refined and polite manners, and their artistic tastes.

Religions—

The prevailing religion is **Shiah Muhammadanism.**[1]

The Armenians are Christians.

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[1] See note on p. 39.

## XI. Means of Communication.

There are only a few miles of railway, and less than 200 miles of roads suitable for carriage transport Over most of the country, roads cannot be said to exist.

## XII. Trade and Commerce.

Trade is carried on by means of mules in the mountains, and by camels in the plains.

The river Karun is navigable for about 100 miles above its confluence with the Shat-el-Arab.

EXPORTS—

The chief exports are **dried fruits, opium, cotton, wool, silk, carpets, pearls, turquoises.**

IMPORTS—

The chief imports are **cotton goods, cloth, glass, sugar, petroleum, tea, coffee, drugs.**

## XIII. Government and Towns.

GOVERNMENT—

The form of Government resembles in most respects that of Turkey. All laws are based on the precepts of the Koran, and the power of the Shah is absolute so long as it is not opposed to any of the doctrines of the sacred book.

The whole revenue of the country is at his disposal.

The standing **army** of the country is about 25,000 men. It is badly armed and drilled, though the physique of the soldiers, who are drawn from the hardy highland tribes, is excellent.

**Education** is in a backward state. There are a large number of madrassahs (colleges) supported by public funds.

TOWNS—

From the geographical conditions of the country it follows that the large towns and most of the settled population will be found in the west

A line running north and south from the Caspian Sea to the Persian Gulf, past the western end of Lake Niriz, divides the country into two parts, the western portion being about one-third of the whole. In this portion nearly all the towns of importance are situated, as well as the sites of the ancient capitals, **Susa** and **Persepolis**.

**Teheran** (250,000), the modern capital, is situated in an arid plain, a little south of the Elburz mountains. The city has a mean appearance, and the only building of importance is the palace of the Shah

**Tabriz** (180,000), the chief commercial city of Persia, is situated 5000 feet above the sea in the basin of Lake Urumiya, on the trade route to Trebizond.

**Isfahan** (80,000) is situated in a fertile plain about midway between the Caspian Sea and the Persian Gulf. It was formerly the capital and has many splendid buildings.

**Meshed** (60,000), in the north-east corner of the country, is the capital of Khorasan, and the chief trade centre of Eastern Persia. It contains the famous and wealthy shrine of the Iman Riza, which is a great object of Muhammadan pilgrimage.

**Yezd** (40,000), in the middle of Persia, is the home of the Parsis, and has a busy trade with India.

**Kerman** (40,000), south of the mountain range that runs south-east from Yezd, makes felts, carpets, and shawls.

**Urumiya** or **Urmia** (40,000) west of Lake Urumiya, is the head-quarters of the missions to the Nestorian Christians.

**Shiraz** (30,000) is situated in a lovely valley 4500 feet above the sea, about 220 miles south of Isfahan. It is surrounded by rose-gardens and vineyards, and its wine is famous.

The chief seaports are

**Barfrush** (50,000) on the Caspian.
**Mohammerah**, on the Karun, close to the Shat-el-Arab.
**Bushire**, on the Persian Gulf, 120 miles west of Shiraz.

## QUESTIONS.

1. What part of the Iranian Plateau does Persia occupy? What is the shape and general configuration of the country?

2. Give some account of the mountain system of Persia. How do you account for the fact that the rivers are few in number and inconsiderable in size?

3. Name the principal products. What is the *Karez* system of irrigation?

4. Give some account of the inhabitants of Persia.

5. How is Persia situated with regard to means of communication? Name the principal ports, and the exports from them.

6. Why is Western Persia the most thickly populated part of the country?

7. When and what are Meshed, Teheran, Tabriz, Isfahan, Shiraz, Bushire, Susa, the Karun, Hamun, the Kizil-Uzen, Ormuz, the Kavirs, Urumiya, Khorasan, Gwatar Bay, Demavend?

# AFGHANISTAN.

## I. Introductory.

AFGHANISTAN is an inland state which occupies the north-eastern portion of the Iranian plateau. It is the only country in Asia which has direct and comparatively easy land communications with India.

It lies between lat. 30° and 38° N., and long. 61° and 72° E.

## II. Boundaries.

On the North. Russian Turkestan and the Pamir Plateau.
On the East: India.
On the South: Baluchistan, feudatory to India.
On the West: Persia.

## III. Size.

Its length from north to south is about 500 miles, and its breadth, from the frontier near Herat to the Khaiber Pass, about 600 miles

The area of the country is about 215,400 square miles

## IV. Relief

In the west and south the country is continuous with the Khorasan and Sistan depressions in Persia. It rises towards the highlands of the north and east.

MOUNTAINS—

The **Hindu Kush** runs south west into Afghanistan from the Pamir Plateau, and is continued by the **Koh-i-Baba Range** to the heart of the country, and then west by the **Safed-Koh** towards Herat.

> The southern part of the Hindu Kush does not rise above the snow-line; in the north of Afghanistan it has peaks 25,000 feet high.

Other ranges branch off north towards the Turkestan border and south towards Kandahar. From near Kabul the eastern **Safed-Koh** runs east to the plains of Peshawar between the basins of the Kabul and Kuram rivers, and culminates in **Mount Sikaram,** 15,620 feet.

> The country between the Afghan border and the Indus is wild and mountainous, and is inhabited by the warlike border tribes known collectively as Pathans.

## V. Rivers.

Afghanistan has three lines of drainage: northwards to the Aralo-Caspian or Turkestan depression, eastwards to the Indus; southwards to Lake Sistan or Hamun, which is partly in Afghanistan and partly in Persia.

Most of the drainage of the country flows to Lake Hamun through its largest river, the **Helmand** (700 miles), which rises south of the Koh-i-Baba range

The **Oxus** forms the greater part of the northern boundary, after which the best known river flowing to Russian Turkestan is the **Murghhab**, which is lost in the desert after irrigating the oasis of Merv.

The most important streams flowing east are the **Kabul** and **Kuram** rivers, which are tributaries of the Indus.

## VI. Climate.

The climate is very dry, and both heat and cold are extreme. Nevertheless, except in the low-lying parts of Afghan and Turkestan, the country is not unhealthy.

## VII Products and Industries.

PRODUCTS—

The mountains are generally bare, and the plains sandy and barren, but the valleys and the districts where the **kariz** (Persian, *kanat*) system of underground irrigation can be practised are very productive

**Wheat, maize,** and **rice** are the staple food crops.

**Cotton, sugar,** and **tobacco** flourish in low-lying well-watered tracts

**Grapes, melons, apples, pomegranates,** and other fruits, reach great perfection, and are esteemed throughout India.

The **assafoetida** plant abounds, and large quantities are exported.

**Minerals** are said to be abundant, but are little worked.

INDUSTRIES—

The principal industries are the manufactures of **silk, carpets, felts,** and **postins** or sheepskin coats.

## VIII. Trade and Commerce

The trade of Afghanistan is mainly with India and Russian Turkestan, but the total amount is not very great.

IMPORTS—

The chief imports from India are **cotton goods, indigo, sugar,** and **tea.**

EXPORTS—

The chief exports to India are **horses, spices, assafoetida, fruits,** and **nuts.**

## IX. People.

POPULATION—

The population is about four millions.

RACES—

The **Ghilzais,** who are of **Aryan** stock, are the largest tribe. The inhabitants of Afghan Turkestan are of **Tartar** origin, the **Usbegs** being the chief tribe.

RELIGION—

All Afghans are **Sunni Muhammadans.**

## X. Means of Communication.

ROADS—

The roads are chiefly rough tracks through the mountains or across the plains. They are of special interest because they connect the numerous passes leading to India with Western Asia.

The most northerly and the best known pass to India is the **Khyber,** on the road from **Kabul** to **Peshawar.**

Another road from Kabul crosses the **Shutargardan Pass,** in the Safed-Koh range, the **Peiwar Pass,** in the same range, and leads down the **Kuram Valley** to the Indus.

Another route runs from **Ghazni,** on the road from Kabul to Kandahar, across the **Gomal Pass** to **Dera Ismail Khan,** farther down the Indus.

A road from **Kandahar** crosses the **Khojak Pass** to **Quetta.**

Passes over the Hindu-Kush and the western Safed-Koh are crossed by the routes to **Afghan Turkestan** and **Bokhara.**

Important trade routes also connect **Herat** with **Meshed** and **Merv.**

## XI. Government and Towns.

Under the severe and firm rule of the late Amir, Abdur Rahman, the turbulent tribes of Afghanistan have been reduced to order, and considerable progress has been made in organising a regular army on European models. Cannon, rifles, and ammunition were manufactured at the Kabul Arsenal under English supervision.

**Kabul** (75,000), the capital, is situated on a plane in the angle between two mountain spurs. Its position at the junction of routes from Turkestan, Herat, Kandahar, and India, makes it an important trade centre. It is 165 miles from Peshawar by the Khaibar Pass.

**Kandahar** (60,000), the chief city of South Afghanistan, stands on a small cultivated plain 290 miles south-west of Kabul, 335 miles south-east of Herat, and about 200 miles north-west of Quetta.

It is a place of considerable trade and of great military importance.

**Herat** (50,000) is a fortified city standing in a fertile valley in the north-west corner of Afghanistan Its nearness to the frontiers of Persia and Russian Turkestan, and the terminus of the trans-Caspian railway at Kushk, make it a place of much importance.

### QUESTIONS.

1. Describe the geographical situation of Afghanistan. Compare its area with the areas of the neighbouring countries
2. Give the names of the chief mountain ranges, and mark them upon a sketch-map.
3. How is Afghanistan drained? What portion of it belongs to a system of inland drainage?
4. What is the nature of the foreign trade of Afghanistan? Describe the trade routes to India and Russian Turkestan.
5. Give some account of the Afghans. How are they ruled?
6. Write a short account of Kabul, Kandahar, and Herat.

## EXAMINATION PAPERS ON ASIA

### I.

1. Draw the map of India and on it (1) trace the course of the Ganges, the Jumna, the Brahmaputra, and the Indus, with their chief tributaries; (2) insert, marking the names, Calcutta, Bombay, Madras, Peshawar, Delhi, Benares, Allahabad, Seringapatam, Hyderabad.
2. Give a general description of the physical features of Persia, and state its boundaries.
3. State where and at what time of year the south-west monsoon prevails, and compare Madras and Calicut as regards their wet and dry seasons and amount of rainfall.
4. Name one important article of export from each of the following:—Rangoon, Karachi, Yokohama, Canton, the Levant, Baku.
5. Where are situated Palk Straits, the Andaman Islands, Cape Lopatka, Goa, Rhodes, Macao, Vladivostok, the river Helmand, Lebanon, Batum, Seoul?
6. Give the position and any particulars of Simla, Penang, Tiflis, Saigon, Nagasaki, Smyrna, Lhasa, Irkutsk, Mecca, Chitral.

## II.

1. Draw a sketch-map of India, and trace on it the courses of the Kavari, Mahanadi, Gumti, and Tapti: insert also Adam's Peak, the Khyber Pass, Point de Galle, Mount Everest, the Malabar Coast, Darjeeling, Sind, Baroda, Juggernaut, Patna, Tinnevelli, Arcot, Nepal, the Nilgiri Hills.

2. Write a concise account of the mountain system of Asia; name in order from east to west the rivers in Asia that flow into the Arctic Ocean.

3. Name in order from north to south six large towns in China, and describe the positions of Formosa and Hainan

4. From what parts of Asia do we get tea, furs, rice, silk, indigo, and fruit?

5. Describe as accurately as you can the position of the river Tigris, the Caucasus Mountains, the Dardanelles, Korea, the Khingan Mountains, Kamchatka, the Taurus.

6. Where are the following places, for what is each noted, and to what Power does each belong Aden, Bangkok, Ozaka, Malacca, Merv, Kashgar, Singapore, Hanoi, Bhamo, Tobolsk, Maimachin?

## III.

1. (*a*) Mention the principal protected states of India. What are their capitals? (*b*) Where are Trichinopoli, Cawnpore, Mysore, Rawal Pindi, Tirah, Lucknow, Ootacamund, Kandy, and Nagpur?

2. Mention the chief rivers of (1) Indo-China, (2) China. What and where are Pamir, Damascus, Yemen, Gobi, Van, Perim, Kars, Elburz, Manipur, Bagdad, Isfahan?

3. Show how the fertility of different parts of Asia is affected by rainfall. Mention examples in Asia of places with extreme and with equable climates, and account for the nature of the climate in each case.

4. Describe the course that would be taken by a steamer on a voyage from Suez to Tientsin, mentioning the various British possessions that she would touch at or pass on the way.

5. What are the chief articles of commerce between England and India? Name the principal races and religions of India.

6. State what you know of the position and peculiar importance of Quetta, Port Arthur, Hongkong, Singapore, Colombo, Shanghai, Tientsin, Kabul, Herat, Singan.

# EUROPE.

## I Introductory.

THE continent of **Europe** is the western and smaller portion of the land-mass called Eurasia

Although it is sometimes useful to consider Europe and Asia together as forming one whole, both their history and geography mark them in many ways as distinct continents

Europe has been for centuries in advance of the rest of the world in civilisation and culture. This is largely due to the fact that this continent is entirely situated in the north temperate zone The climate is favourable to work; geographical conditions make the interchange of ideas and commodities easy; and a common religion has helped the spread of knowledge among the different peoples.

European Powers now dominate the greater portion of the Old World; and the descendants of Europeans are the ruling races in the New World

## II. Geographical Situation

Europe lies in the north-west of the Eastern Hemisphere, and is the north-western portion of the Old World.

The extreme points of the mainland are

North: Cape Nordkyn, in Norway; lat. 71° 5′ N.
South. Cape Tarifa, in Spain; lat 36° N.
West: Cape Roca, in Portugal; long. 9° 30′ W
East · The source of the River Kara, long 66° 20′ E.

Hence, Europe extends for five degrees of latitude within the Arctic Circle, but is separated by nearly thirteen degrees from the Tropic of Cancer. The most southerly point only reaches the latitude of Chitral in the extreme north-west of India. The most easterly point has almost the same longitude as Karachi.

North Cape, on a small island off the coast of Norway, is a little further north than Cape Nordkyn ; Dunmore Head, on the west coast of Ireland, is a degree further west than Cape Roca , and Cape Theodia, the southernmost point of Crete, is a degree more south than Cape Tarifa.

## III. Size and Shape.

Europe is the smallest continent. Including islands, its area is about 3¾ million square miles. It is, therefore, less than one-fifth of Eurasia. It is a little larger than Canada, and about twice as large as the Indian Empire.

The greatest length of Europe (about 3600 miles) is from Cape St. Vincent in Portugal to a point a little south of the place where the Siberian Railway crosses the boundary of European Russia. It greatest breadth (about 2400 miles) is from Cape Nordkyn to Cape Matapan in the south of Greece.

Europe is the largest peninsula of Eurasia, being a small triangle cut off from the larger triangle of Eurasia. The remainder, quadrilateral in shape, is Asia.

## IV. Boundaries.

On the North : the Arctic Ocean.

On the West : the Atlantic Ocean

On the South · the Mediterranean Sea, the Black Sea, and the Manych depression between the sea of Azov and the Caspian Sea.

On the East: the Kara River and the northern portion of the Ural Mountains; further south an arbitrary line which meets the Caspian Sea west of the delta of the River Ural.

## V. Coasts.

The coast-line of Europe is longer in proportion to its area than that of any other continent. This is mainly due to the number of large inland seas, which break up the land into peninsulas, nearly all of which run south.

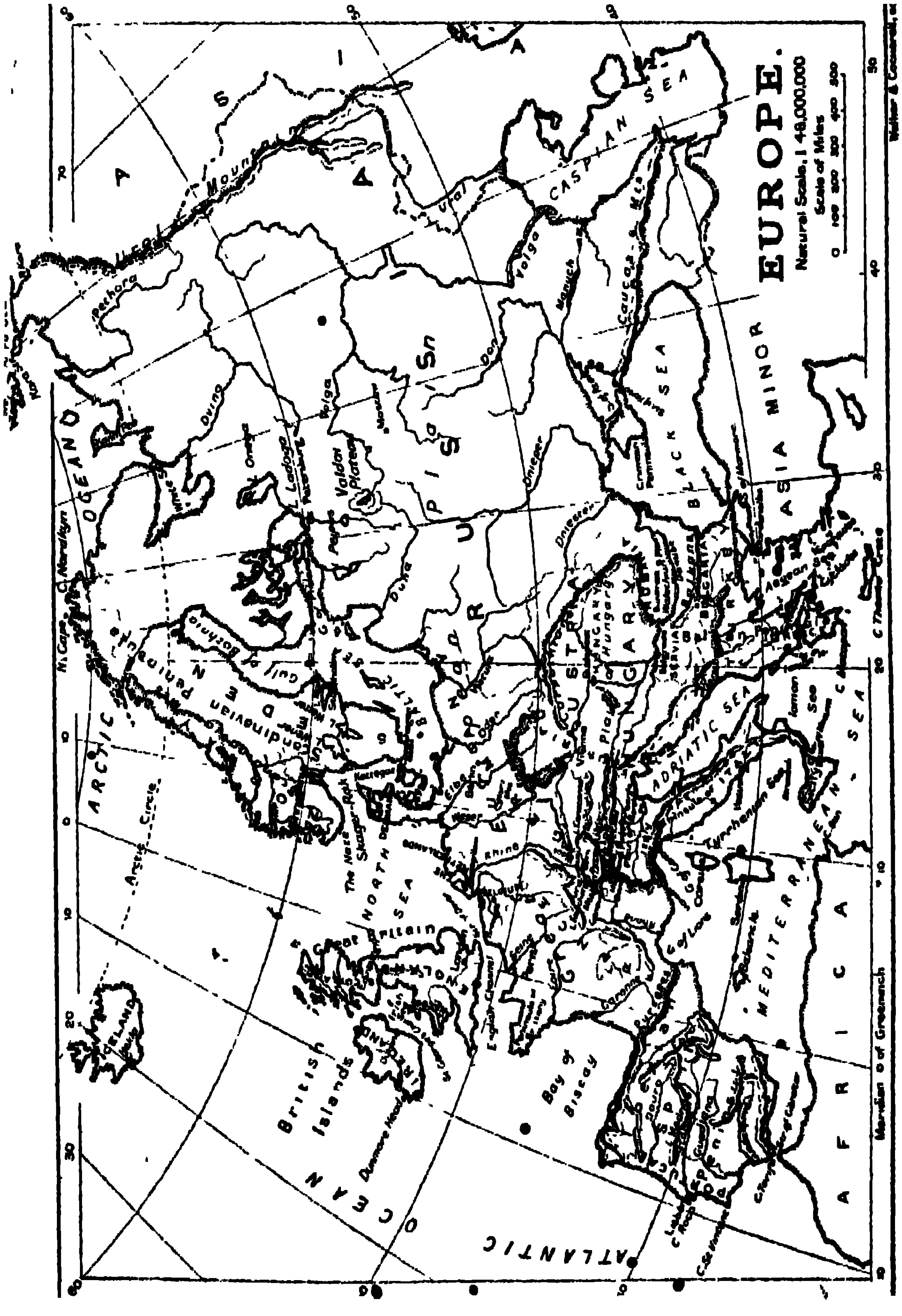
*North Coast.* This coast lies almost entirely within the Arctic Circle. It is ice-bound during the winter months, except in the west, where it is warmed by the Gulf Stream.

The **White Sea** is a deep indentation, most of which lies outside the Arctic Circle.

The **Kanin Peninsula**, east of the White Sea, runs north.

ISLANDS—

The **Spitsbergen** archipelago lies north of Norway in a region of almost perpetual winter.


EUROPE.
Natural Scale, 1:46,000,000
Scale of Miles
0 100 200 300 400 500
ARCTIC OCEAN
ATLANTIC OCEAN
British Islands
Great Britain
IRELAND
ICELAND
NORTH SEA
Bay of Biscay
MEDITERRANEAN SEA
ADRIATIC SEA
BLACK SEA
CASPIAN SEA
Ionian Sea
Aegean Sea
Tyrrhenian Sea
ASIA MINOR
AFRICA
ASIA
RUSSIA
SWEDEN
Scandinavian Peninsula
Gulf of Bothnia
BALTIC
Skager-Rak
FRANCE
SPAIN
AUSTRIA
HUNGARY
TURKEY
SERVIA
GREECE
Ural Mountains
Caucasus Mts
Volga
Don
Dnieper
Dniester
Dwina
Petchora
Valdai Plateau
L. Ladoga
L. Onega
White Sea
N. Cape
Danube
Rhine
Elbe
Oder
Loire
Garonne
Douro
English Channel
Gulf of Lions
Arctic Circle
Dunmore Head
C. Matapan
Meridian 0 of Greenwich
Walker & Cockerell, sc.

**Novaya Zemlya**, a long narrow island at the eastern end of the north coast, cuts off the Kara Sea from the Arctic Ocean.

The **Kara Strait**, south of Novaya Zemlya, is open in summer for ships trading between Europe and Siberia.

*West Coast.* The general direction is from north-east to south-west.

The Norway coast is bold and rocky, broken by innumerable deep and narrow inlets called *fiords*, and fringed by rocky islands

From the **Naze**, the most southerly point of Norway, the wide and winding channels of the **Skager-Rak** and **Kattegat** lead to the narrower straits at the entrance to the Baltic.

The **Baltic Sea**, about the same size as the Caspian, is a narrow sea of remarkable shape, terminating in the gulfs of **Bothnia** and **Finland**. It cuts off the Scandinavian Peninsula from the rest of Europe.

The **North Sea** or German Ocean lies between Norway and Denmark on the east, the Netherlands and Belgium on the south, and Great Britain on the west. In the north it is open to the Atlantic Ocean.

The southern shores of the North Sea and the Baltic are generally sandy and low-lying

The **English Channel** is an arm of the sea separating England from France, and connecting the North Sea with the Atlantic Ocean. From the **Strait of Dover**, 21 miles across, it widens westward to the Atlantic, past the rugged peninsula of **Brittany**, at the north-west corner of France.

The **Bay of Biscay** occupies a wide angle between the sandy, low-lying west coast of France, and the bold northern coast of the **Iberian Peninsula**. The Iberian Peninsula projects south between the Atlantic and the Mediterranean.

ISLANDS—

The **British Islands** lie west of central Europe. They consist of **Great Britain**, the largest island of Europe, **Ireland**, the third island of Europe, and many smaller islands. The **Irish Sea** separates Great Britain from Ireland.

**Iceland**, the second island of Europe, lies just outside the Arctic Circle, about 700 miles from the coast of Norway. It is about five degrees further west than Ireland.

*South Coast.* The **Mediterranean Sea**, about 2300 miles long, washes the southern shores of Europe. It is almost tideless, salter than ocean, and famous for its deep blue colour. Its only outlet to the ocean is by the **Strait of Gibraltar**, less than ten miles wide.

The peninsula of Italy and the island of Sicily divide the Mediterranean into two parts, which, as Sicily comes within 90 miles of Cape Bon in Africa, are easily distinguished.

The European shores of the **Western Mediterranean** form a great bay, with the gulfs of **Lions** and **Genoa** in the north of it. Two large islands, **Corsica** and **Sardinia**, lie in line with one another south of the latter gulf.

The **Balearic Islands** lie between Sardinia and the coast of Spain.

The **Tyrrhenian Sea** is the name of the part of the Mediterranean separating Corsica and Sardinia from Italy and Sicily.

**Sicily** is separated from the "toe" of Italy by the **Strait of Messina**, 2½ miles wide.

In the **Eastern Mediterranean** the narrow **Adriatic Sea** separates Italy from the Balkan Peninsula.

Between the **Ionian Islands**, which fringe the western shores of Greece, and the foot of Italy, is the **Ionian Sea**

North of the large island of Crete or Candia is the Aegean Sea, shut in by Greece, Turkey, and Asia Minor Its close-lying islands form the **Archipelago**, divided by a deep-sea channel into two groups the **Cyclades**, belonging to Europe, on the west, and the **Sporades**, belonging to Asia, on the east.

The **Dardanelles Strait** connects the Aegean with the **Sea of Marmora**, from which the river like **Bosporus** leads to the Black Sea.

The **Black Sea** washes the eastern shores of the Balkan Peninsula and the southern shores of European Russia as far as the **Crimean Peninsula** East of the Crimea is the shallow sea of **Azov**, connected with the Black Sea by the Strait of **Kertch**.

The rest of the Black Sea coast belongs to Asia

The Caspian Sea bounds Europe for a little distance north and south of the delta of the River Volga.

## VI. Relief.

The greater part of Europe is less than 600 feet above sea level. Its relief, therefore, is in marked contrast with that of Asia, most of whose surface is more than 600 feet above the sea.

PLAINS—

The Great Plain of Europe comprises the coast lands from the Bay of Biscay to the east of the Baltic Sea. It then widens till it includes the whole of eastern Europe from the Arctic Ocean to the Black Sea. In this great tract there are no large areas rising above 600 feet, except in central and eastern Russia.

where there are low plateaux of considerable extent. The **Ural Mountains** divide it from the great plain of Northern Asia

The **Plain of Northern Italy**, in the basin of the Po; the **Plain of Hungary**, in the middle basin of the Danube; and the **Walachian Plain**, in the basin of the lower Danube, are the only other large plains.

PLATEAUX.—

Extensive and lofty plateaux are not, as in Asia, a marked feature of the geography of the continent. Europe has two distinct highland regions: one in the north-west, comprising the Scandinavian Peninsula and parts of Great Britain; the other comprising the southern part of central Europe, and the three Mediterranean peninsulas.

The **Iberian Peninsula**, at the south-west corner of the continent, is the only example of a true plateau. It has an average height of over 2000 feet above sea level, and, in the interior, its surface is comparatively uniform.

MOUNTAINS.—

The **Alps** are the principal mountain system of Europe. They occupy the middle of the southern highland region, which is bounded on the west, north, and east by the great plain described above. There are various minor ranges, outliers of the Alps, such as the **Jura**, the **Black Forest**, the **Harz Mountains**, the **Erz Gebirge**, the **Bohmer Wald**, and others, none of which rise above 6000 feet.

The Alps have a total length of about 700 miles, and cover an area equal to that of Great Britain.

The Alps are practically continuous with the Apennines, from which they are divided by a pass 1600 feet high, north-west of the Gulf of Genoa. Thence they run west to the borders of France, forming the **Maritime Alps**, and then northwards to the Lake of Geneva. Turning eastwards through Switzerland their general direction remains east until they die away in the plains of Hungary. The average height of the snowline in the Alps is about 9000 feet, and only one of the numerous passes connecting Italy with the countries to the west and north exceeds this height.

**Mont Blanc**, 15,775 feet, the highest summit in the Alps, and also the highest mountain in Europe, is in the western Alps, on the borders of France and Italy

**Monte Rosa**, 15,215 feet, on the borders of Switzerland and Italy, is the only other peak rising above 15,000 feet. Several peaks rise above 14,000 feet, and many above 13,000 feet.

The **Pyrenees** run from the Bay of Biscay to the Mediterranean, across the isthmus connecting the Iberian Peninsula with the rest of Europe. The range is about 350 miles long, and forms a natural boundary between France and Spain.

Though not so high as the Alps, the highest point being a little over 11,000 feet, the Pyrenees are a more unbroken chain, and the passes over the central portion are higher than those over the Alps.

The **Apennines** begin near the Gulf of Genoa, and run right down the peninsula of Italy, ending in the "toe" They reach their highest point, which is somewhat below 10,000 feet, in central Italy, where the range runs nearest the east coast.

The **Carpathians** begin opposite the north-east end of the Alps, on the other side of the valley of the Danube They describe a large semicircle towards the north-east, enclosing the plains of Hungary, and return to the Danube at the gorge of the **Iron Gates** The range is about 800 miles long, and none of its peaks reach the snow line.

The **Balkans** begin on the southern side of the gorge of the Iron Gates. They are practically a continuation of the Carpathians. They run south and then east, parallel to the Danube, towards the Black Sea, near which they die away. They never rise above 8000 feet.

The **Scandinavian Mountains** are the culminating points of the Scandinavian Highlands, and they make Norway, the western part of the peninsula, the most rugged country in Europe after Spain The highest summits are little above 8000 feet, but, as the snowline in this latitude is about 5000 feet, there are many snowy peaks and numerous glaciers

VOLCANOES—

**Vesuvius**, on the Bay of Naples; **Etna**, on the east coast of Sicily; **Stromboli**, in the Lipari Islands, north of Sicily; and **Hekla**, in the south west of Iceland, are the best known active volcanoes. The whole of the Mediterranean seaboard is subject to severe earthquakes, especially southern Italy.

## VII. Rivers and Lakes.

RIVERS—

Most of the great rivers of Europe have their origin in the central highlands, or in the low plateau of central Russia The mountain ranges of Europe are real waterpartings, and the rivers flow from them in different directions to different seas In Asia many of the rivers break through the great mountain ranges.

(1) **Rivers draining Central Europe:** the **Danube, Po, Rhone, Rhine, Weser, Elbe, Oder, Vistula,** and **Dniester.**

(2) **Rivers draining Russia:** the **Volga, Don, Dnieper, Duna, Dvina,** and **Pechora.**

(3) **Rivers draining the Iberian Peninsula and Western Europe:** the **Ebro, Guadalquivir, Guadiana, Tagus, Douro, Garonne, Loire,** and **Seine.**

LAKES—

The principal lakes of Europe may be divided into two great groups .

(1) the lakes round the Baltic, in Russia, Sweden, and North Germany ;

(2) the lakes of the Alpine region

The largest lakes of the first group are **Ladoga, Onega,** and **Peipus** in Russia; and **Wener, Wetter,** and **Malar** in Sweden.

Ladoga, the largest lake in Europe, is about half the size of Lake Baikal in Asia, and not quite so large as Ontario, the smallest of the great Canadian lakes

The lakes of the second group are much smaller. **Geneva, Neuchatel,** and **Constance,** north of the Alps ; **Maggiore, Como,** and **Garda,** south of the Alps, are the largest.

The **Balaton Lake,** or **Platten See,** in Hungary, is larger than any of the Alpine lakes.

## VIII. Climate.

Europe is situated in the north temperate zone. Even the countries of southern Europe are well outside the tropics, and their summer temperatures are much lower than those of southern Asia.

Again, the climate of Europe is favourably affected in the following ways :

(1) It is the western peninsula of Eurasia Hence it is specially brought under the influence of the Atlantic Ocean and the Gulf Stream, and both heat and cold are moderated.

(2) Owing to the irregularity of its outline, the land is deeply penetrated by arms of the sea, which carry far inland the modifying effects upon climate of large bodies of water.

(3) There are no high coast ranges to cut off from the interior the rain-bearing winds from the Atlantic, which are warm in winter and cool in summer.

(4) The general direction of the great mountain ranges of central Europe is east and west. They therefore form a bulwark protecting the countries south of them from cold north

winds Owing to this the countries of the Mediterranean seaboard have a particularly mild and uniform climate.

Hence, in most parts of Europe, the climate is less extreme than that of places in the same latitude in Asia and North America.

RAINFALL.--

The rainfall is heaviest on the mountainous western seaboard of Norway, Great Britain, and north-west Spain, and along the great mountain ranges of central and southern Europe. But the rainfall never approaches that of parts of tropical Asia

As we go east the rainfall diminishes, and in south-eastern Russia it is less than eight inches per annum

Over most of Europe rain falls at every time of year There is no special rainy season. In the countries round the Mediterranean most of the rain falls in winter.

The following table gives particulars of the climate of various places in Europe For the sake of comparison, the figures for Vladivostok, which is in the same latitude as Marseilles, are also given.

| Place | Lat N | Long E | Mean Annual Temperature | Mean Temperature, Hottest Month | Mean Temperature, Coldest Month | Range of Temperature | Annual Rainfall |
|---|---|---|---|---|---|---|---|
| London, - - - - | 51° | 0° | 50° | 63° | 39° | 24° | 25″ |
| Paris, - - - | 48° | 2° | 51° | 66° | 36° | 30° | 20″ |
| Berlin, - - | 52° | 13° | 48° | 67° | 33° | 34° | 30″ |
| Moscow, - | 55° | 37° | 40° | 66° | 14° | 52° | 21″ |
| Orenburg, - - | 51° | 55° | 39° | 70° | 3° | 67° | 16″ |
| Constantinople, - - | 41° | 29° | 58° | 74° | 42° | 32° | 28″ |
| Rome, - - - - | 42° | 12° | 60° | 77° | 45° | 32° | 31″ |
| Marseilles, - - | 43° | 5° | 57° | 72° | 44° | 28° | 20″ |
| *Vladivostok*, - - | 43° | 132° | 40° | 70° | 7° | 63° | 13″ |

## IX. Plants and Animals.

The plants and animals of Europe are such as we should expect to find in a non-tropical peninsula of Eurasia. (Introduction, p. 93.)

PLANTS—

As in the *tundras* of Siberia, **mosses** and **lichens** are the characteristic vegetation of the extreme north-east. The region of forest trees, south of the tundra zone, extends right across the continent, and embraces most of middle Europe. The northern portion of this region is still largely clothed with forest, chiefly evergreens like the **fir** and **pine**.

Further south, where deciduous trees prevail—**oak**, **ash**, **beech**, **elm**, **lime**, etc.—the forest has been in great part cleared away, and the land is under cultivation.

Large tracts in Hungary and South-east Russia (the **steppes**) are too dry to support forest, and are thinly clothed with coarse grass and shrubs.

The countries bordering on the Mediterranean have a vegetation of their own. The **laurel**, **olive**, **holm-oak**, **orange**, **cypress**, **mulberry**, and other trees suited to countries with dry summers are characteristic.

ANIMALS—

The animals are those of the Eurasian region. (Introduction, p. 93.) The larger wild animals are now rare except in the great forests, and in some of the wilder mountain districts. The **brown bear**, **wolf**, **boar**, and various **deer** are found.

The **chamois**, a goat-like species of antelope, is only found in the mountains of central Europe

The domestic animals are the **horse** and **ass**, **cattle**, **sheep**, **goats**, and **swine**. **Dogs** and **cats** are kept for use or as pets. The dog is invaluable to the shepherd; in Belgium it is used to draw light carts. The horse is the usual beast of burden except in the south, where mules and asses are much used.

## X. People.

POPULATION—

The population of Europe has been recently estimated at 378 millions. It has, therefore, about 100 inhabitants to the square mile.

The density of population varies from 16 per square mile in Norway to 579 per square mile in Belgium.

RACES AND LANGUAGES—

The inhabitants of Europe are almost entirely of the **White** or **Caucasian** stock, speaking languages of the **Aryan** family, akin to Sanskrit.

About 90 per cent. of the total population belong in nearly equal proportions to three races: the **Teutonic**, the **Romanic**, and the **Slav** races

The **English**, **Dutch**, **Scandinavians**, and **Germans** are of Teutonic race, and number about 117 millions.

The **French**, **Italians**, **Spanish**, **Portuguese**, and **Rumanians** are of Romanic race, and number about 107 millions.

The **Russians**, **Poles**. **Servians**, **Bulgarians**, the **Czechs** in Bohemia, and the **Wends** in Germany are Slavs, and number about 117 millions

**Non-Aryan languages** are spoken by the **Magyars** in Hungary, by the **Lapps** and **Finns**, and by the **Turks** The **Basques** of the western Pyrenees speak a language which is peculiar to them

RELIGIONS—

**Christianity** is the religion of 96 per cent. of the inhabitants of Europe.

Nearly half of the Christians are **Roman Catholics**, about a quarter are **Protestants**, and a quarter belong to the **Greek Church** The people of Romanic race are mostly Roman Catholics, Teutons are mostly Protestants, and Slavs are usually of the Greek Church

There are about six million **Muhammadans** in Turkey and eastern Europe, and about six million **Jews** scattered all over the continent

CIVILISATION—

Europe, though not the seat of the earliest civilisation, has nevertheless developed civilisation in some of its most powerful and enduring forms Roman statesmanship, law, and military science, Greek art, philosophy, and literature are examples. During the last hundred years the practical application of scientific discoveries has made the progress of civilisation in Europe very rapid. Improvements in the general standard of education, and in the material condition of the people have been most marked in central and western Europe.

## XI. Products and Industries.

MINERALS—

Europe is rich in the useful minerals, and, except in Turkey, they are largely utilised. Nearly all the larger countries have ample supplies of **coal**, **iron**, **copper**, **lead**, and **salt**. Great Britain has **tin**; Belgium and Germany have **zinc**; Spain, Italy, and Austria-Hungary, **mercury** or **quicksilver**; and Italy, **sulphur**.

VEGETABLE PRODUCTS—

The principal cereals are **rye** and **oats** in the north, **wheat** in central Europe, **wheat** and **maize** in the south.

Russia and France are great wheat-growing countries

The **potato** is very widely grown, and is valued as a cheap food.

The **sugar-beet** is largely grown in central Europe.

**Flax** for the linen manufacture is chiefly grown in Russia.

The principal timber-producing countries are Russia, Sweden, Norway, and Austria-Hungary.

Fruit trees of many kinds flourish The **vine** is largely cultivated in southern Europe, France, and Germany.

**Oranges** and **lemons** thrive in the Mediterranean countries

The **apple** is specially characteristic of Western Europe.

ANIMAL PRODUCTS—

**Wool** is an important product in Russia, Germany, and the United Kingdom.

**Raw silk** is mostly produced in northern Italy and in France

The **herring**, and other sea fish of the Atlantic are an important source of food. The **sardine**, **tunny**, and **anchovy** of the Mediterranean are the most important food fishes of southern Europe.

MANUFACTURES—

Those parts of Europe where coal or some other source of power is available have become largely industrial. The principal manufacturing countries, that is, those whose chief exports are manufactured goods, are the **United Kingdom**, **France**, **Germany**, **Belgium**, **Holland** and **Switzerland**.

All these countries, Switzerland excepted, produce coal and iron.

The **United Kingdom** is by far the largest manufacturer of **iron**, **steel**, **machinery**, **cotton** and **woollen goods**.

## XII. Means of Communication.

Owing to its numerous inland seas and navigable rivers, the natural communications of Europe are excellent. In the countries of western and central Europe the waterways have been greatly improved by the construction of canals connecting the rivers with one another.

The high roads in most European countries are good.

The trunk railway system of Europe is very complete, both as regards the continent as a whole, and also as regards particular countries.

Notwithstanding the sea passage across the Strait of Dover, London is only seven hours from Paris, and Paris has direct railway communication with all the great European capitals: Berlin, Vienna, St. Petersburg, Constantinople, and Madrid

In most European countries a network of branch lines connects the outlying trade centres with the trunk lines. The railway system is least complete in Russia and Turkey.

Telegraphic communication is in general use all over the continent, and most of the towns have a telephone system.

## XIII. Trade and Commerce.

The foreign trade of Europe chiefly consists in the import of **food-stuffs** and the **raw material** of manufactures, and in the export of **manufactured products.**

This is only true of the manufacturing countries. Those that are still mainly agricultural—Russia, Denmark, Norway, and Sweden—export the products of the forest, field, and sea, and import manufactured goods.

The trade of the different countries of Europe among themselves is determined by their respective requirements The fruits, wine, and oil of the south are exchanged for the timber, furs, and other commodities of the north. The United Kingdom, for example, does not produce food enough for its population, and has to import large supplies of butter, eggs, and live stock from the adjacent countries of the mainland.

## XIV Political Divisions.

Europe is divided among twenty-three independent states, of which the **United Kingdom, France, Germany, Austria-Hungary, Italy,** and **Russia** are known as the **Great Powers,** because, owing to their superior wealth and strength, they control the destinies of the continent.

Some of these states are formed by the union of several countries under one rule, *e.g.* the United Kingdom is composed of England and Wales, Scotland, and Ireland.

On the other hand, some of the smaller independent states belong geographically to countries of which they are politically independent. San Marino, for example, is a small republic in Italy; Monaco is a small principality on the southern coast of France.

## THE COUNTRIES OF EUROPE.

| Name. | Area (sq miles). | Population (millions). | Government | Capital. |
|---|---|---|---|---|
| United Kingdom, | 120,979 | 40 | Limited Monarchy | London |
| England and Wales, | 58,309 | 31¼ | | London |
| Scotland, | 29,875 | 4¼ | | Edinburgh |
| Ireland, | 32,583 | 4½ | | Dublin |
| Norway-Sweden, | 297,321 | 7 | Limited Monarchy | |
| Sweden, | 172,876 | 5 | | Stockholm |
| Norway, | 124,445 | 2 | ,, ,, | Christiania |
| Denmark, | 15,289 | 2 | ,, ,, | Copenhagen |
| The Netherlands, | 12,648 | 5 | ,, ,, | Amsterdam |
| Belgium, | 11,373 | 7 | ,, ,, | Brussels |
| France, | 204,092 | 39 | Republic | Paris |
| Switzerland, | 15,976 | 3 | Federal Republic | Bern |
| Germany, | 208,830 | 56 | Limited Monarchy | Berlin |
| Austria-Hungary | 240 943 | 41 | ,, ,, | Vienna |
| Austria, | 115,903 | 24 | ,, ,, | Vienna |
| Hungary, | 125,039 | 17 | ,, ,, | Budapest |
| Rumania, | 50,700 | 6 | ,, ,, | Bukarest |
| Bulgaria, | 38,080 | 3 | Principality | Sofia |
| Servia, | 18,455 | 2 | Limited Monarchy | Belgrade |
| Montenegro, | 3,630 | ¼ | Principality | Cettinge |
| Turkey, | 65,752 | 6 | Absolute Monarchy | Constantin |
| Greece, | 25,014 | 2 | Limited Monarchy | Athens |
| Spain, | 197,670 | 18 | ,, ,, | Madrid |
| Portugal, | 36,038 | 5 | ,, ,, | Lisbon |
| Italy, | 110,646 | 32 | ,, ,, | Rome |
| Russia, | 2,095,646 | 106 | Absolute Monarchy | St. Petersb |

### QUESTIONS.

1 Compare the latitudes of the extreme north and south points of Europe with those of Asia

2. The coast-line of Europe is very broken Mention some of the special features of the continent that result from this.

3. Describe accurately the position of the principal peninsulas of Europe, and name the capes in which they end. Which peninsulas run north?

4. What countries are washed by the Baltic Sea? What straits connect it with the North Sea?

5. Describe the two natural divisions of the Mediterranean.

6. What parts of Europe are lowland plain?

7. Compare great mountain ranges of Europe with those of Asia, as regards (1) their general direction, (2) height, (3) height of the snowline.

8. Make a list of the twelve longest rivers in Europe. Which of them rise in the Alps, and which on the plateau of Central Russia?

9 Why is the climate of Europe so much milder than that of Asia? Where is the rainfall greatest, and why? Compare the climates of London and Orenburg?

10. How does the vegetation of Central Europe differ from that of the Mediterranean region, and why?

11. How does the density of population in Europe compare with that of other continents? Can you give any reasons why one country should be more thickly populated than another?

12. Where are the people of Romanic race chiefly found in Europe?

13. What European countries are the largest producers of wheat, wine, flax, timber, and silk?

14. Name the principal manufacturing countries of Europe. Which of these are coal and iron producing countries?

15. What is the general character of European trade with the rest of the world?

# *THE UNITED KINGDOM.*

## I. Introductory.

THE United Kingdom of **Great Britain and Ireland** is an insular state of north-western Europe. It occupies the **British Isles**, and comprises the three kingdoms of **England, Scotland,** and **Ireland,** the principality of **Wales,** and, as self-governing dependencies, the **Isle of Man** and the **Channel Isles.**

The United Kingdom is often, but incorrectly, spoken of as "England," or "Great Britain," and things are called "English" which would be more properly called British; e.g. the "English" navy, "English" goods, and "English" trade, when the British navy, British goods, and British trade are meant.

## II. Situation.

The British Isles are situated in the north-eastern part of the Atlantic Ocean, and lie off the western shores of Europe, from which they are separated by the shallow North Sea and the English Channel.

If the bed of the North Sea were raised less than 200 feet, dry land would connect the east of England with Belgium, Holland, and Denmark, and there is little doubt that such a connexion did once exist

*Extreme Points*—

North : Dunnet Head, lat 58° 40′ N.
East . Lowestoft Ness, Suffolk, long 1° 42′ E.
South : Lizard Head, lat. 49° 58′ N.
West : Dunmore Head, long. 10° 30′ W.

The parallel of lat. 60° N passes through the Shetland Islands. Hence the British Isles are practically comprised within ten degrees of latitude and about twelve degrees of longitude.

## III. Size and Shape.

The area of the United Kingdom is 120,979 square miles. It is about one-fifteenth the size of the Indian Empire, and is the seventh in size of European states.

The British Isles consist of about 5000 Islands, of which **Great Britain**, 88,184 square miles, and **Ireland**, 32,583 square miles, are the only two of considerable size

Great Britain ranks sixth among the islands of the world. Its length is about 600 miles, and its breadth varies from 25 to 350 miles.

A triangle whose vertex is in the Orkney Islands, and whose base is a line drawn from the South Foreland to Dunmore Head in Ireland, includes the greater part of the British Isles. The meridian of 4° W. divides this triangle almost equally, and cuts both the east and west coasts of Great Britain.

## IV. Coasts.

The coast-line of the British Isles is very irregular Owing to its deep indentations, the sea is easily accessible from all parts, no place being more than 70 miles from the sea. Good harbours are plentiful and conveniently situated.

- One result of the irregular shape of Great Britain is that some places on the east coast are further west than places on the west coast. Edinburgh, for example, is further west than Liverpool and Bristol.
- The *east coasts* of both Great Britain and Ireland are the most regular, though the coast of Great Britain is marked by the great indentations of **Moray Firth**, the **Firth of Forth**, the **Wash**, and the **Thames Estuary**.
- The *southern coasts* are less deeply indented, but they have numerous inlets and excellent harbours.
- The *western* coast of Great Britain, and the *western* and *northern* coasts of Ireland are the most broken.
- The **Bristol Channel**, **Cardigan Bay**, the **Irish Sea**, **Solway Firth**, and the **Firth of Clyde** occupy the great indentations of the west coast of Great Britain, which, further north, is broken by narrow inlets like the fiords of Norway.
- **Donegal Bay**, and the wide openings terminating in **Galway Bay**, indent the west coast of Ireland.
- The south-west and north-west coasts of Great Britain face the Atlantic, as does also the west coast of Ireland—the boldest coast in Europe. Some of its cliffs rise 2000 feet sheer out of the ocean.
- The **Irish Sea**, 150 miles wide, separates Great Britain from Ireland. **North Channel**, 14 miles wide, in the north, and **St. George's Channel** in the south connect it with the Atlantic Ocean.

ISLANDS.—

- The **Outer** and **Inner Hebrides** lie off the western coast of Scotland.
- The **Orkney Islands** lie north of the north-east corner of Scotland. Further north-east are the **Shetlands**.
- The **Isle of Man** is in the Irish Sea, almost equidistant from England, Scotland, and Ireland.
- **Anglesea** is close to the north-west coast of Wales.
- The **Scilly Islands** are south-west of Land's End, the extreme south-west point of Great Britain.
- The **Isle of Wight** lies off the south coast, opposite Southampton Water.
- The **Channel Islands** lie off the coast of Normandy and belong geographically to France.

## V. Relief.

The surface features of Great Britain accord with the belief that it was once connected with the mainland of Europe.

The northern part of the island is a wild, highland country, resembling closely the western parts of the Scandinavian peninsula. The western parts of Great Britain in general have a somewhat similar character. From the southern uplands of Scotland a backbone of mountains runs through the northern counties of England, and terminates in the heart of the country The rest of Great Britain,—the southern and eastern portions,—is for the most part below 600 feet in elevation, and, though the country is seldom tamely flat, and is broken in places by minor ranges of hills, it belongs in its general character to the great European plain.

Ireland is a shallow basin, formed by a central plain surrounded by isolated groups of mountains standing between it and the coast. The central plain only extends from sea to sea across the middle of the island, between Dublin Bay and Galway Bay.

## VI. Drainage System.

The main waterparting of Great Britain generally runs nearer the west coast than the east; hence the rivers of the mountainous west and north are short and rapid, and of little use for navigation In the broad lowland regions of the east and south there is room for the formation of larger rivers The land slopes gently towards the east, and nearly all the rivers that are useful for inland navigation flow to the North Sea. The only important exception is the Severn, by which the drainage of eastern Wales and west-central England is carried to the Bristol Channel.

The rivers flowing to the English Channel are commercially unimportant.

The rivers of Ireland which drain the level central plain are generally slow and navigable. Many of them expand into lowland lakes of considerable size.

The peculiar physical features of Ireland cause large tracts of the interior to be badly drained, and there is much marsh and peat-bog.

## VII. Climate.

Although the British Isles are nearer to the North Pole than to the Equator, the climate is singularly temperate; far more so than of most other parts of the world in the same latitude.

This is not only due to the fact that these islands lie out in the ocean, off the western shores of Europe, which gives them an insular climate, but also and specially to aërial currents which cause warm south-west winds to be prevalent most of the year. The mean annual temperature, about 49° (in Calcutta, 78°), is as high as that of countries in far lower latitudes on the mainland, while the winter temperatures are much higher. Snow does not lie throughout the year even on the highest mountains The rain-bearing winds blow from the south-west; the western parts of the islands are consequently the wettest, and Ireland, as a whole, is wetter than Great Britain.

The average rainfall is about 34 inches, and in the east of England it is under 25 inches. The wettest place in the British Isles is in the Cumberland Hills, where the annual rainfall is about 180 inches—as much as falls on the outer Himalayas below Darjeeling.

Owing to the greater dryness the climate is most extreme in the eastern counties. Many plants flourish in the open air in Ireland which cannot stand the English winter, but, on the whole, the annual range of temperature, about 20°, is much the same throughout the islands.

The climate of the British Isles is, notwithstanding its variability, one of the healthiest in the world. There are few countries in which out-of-door employments can be carried on so continuously and so healthfully throughout the year.

## VIII. Plants and Animals.

The vegetation is that of Europe in general. Owing to the mildness and moistness of the climate the vegetation has a remarkable freshness. The ground rarely has the parched appearance it has in drier countries.

Formerly the islands were densely wooded, but now, though trees are plentiful, only about one-twentieth of the land is covered with forest The chief indigenous trees in the lowlands are the **oak** and **beech**, in the higher and more northern parts the **pine** and **birch**.

The larger wild animals have long been extinct. **Deer** are found in some of the wilder localities. Smaller wild animals like the **fox**, **badger**, **wild cat**, **otter**, **squirrel**, **hare**, **rabbit**, are still numerous.

The **viper** is the only poisonous snake, but no snakes of any kind are found in Ireland.

## IX. People.

The population of the United Kingdom according to the census of 1901 is nearly 41½ millions In Europe only Russia, Austria-Hungary, and Germany have more inhabitants.

The density of population is about 330 to the square mile, which is only exceeded in Belgium and the Netherlands.

England and Wales contain three-fourths of the population; Scotland and Ireland divide the remaining fourth between them. Owing to the need for skilled labour in the great manufacturing industries, the industrial population is very large, and is mostly concentrated in the large towns. Only in Ireland is the population mainly rural

The following ten towns have more than a quarter of a million inhabitants each: **London, Manchester, Glasgow, Liverpool, Birmingham, Leeds, Sheffield, Bristol, Edinburgh, Belfast, Bradford.**

RACES AND LANGUAGES—

The inhabitants of the British Isles at the beginning of the Christian era were of Keltic race. During the fifth and following centuries successive invasions of Teutonic tribes from the continent dispossessed the Kelts of Great Britain, partly absorbing them, but mostly driving them back into the northern and western highlands. In Ireland the Teutonic invaders did little more than occupy portions of the coast.

Hence, at the present day, the inhabitants of England and the lowlands of Scotland are mainly of **Teutonic** origin: the inhabitants of Wales, Ireland, and the northern highlands of Scotland are mainly **Keltic.**

The prevailing language is **English.** Less than five per cent. of population speak Keltic languages—**Welsh, Erse,** or **Gaelic**—and of these only a minority are unable to speak English.

RELIGIONS—

The great majority of the people are Protestant Christians. Only in Ireland are Roman Catholics predominant.

GENERAL CHARACTER—

The British have always been marked by a sturdy independence of character and by a love of enterprise. These qualities are explained partly by the centuries of struggle and conflict by which the present distribution by race was brought about, and partly by the fact that the British are an island folk, with an instinctive love for the sea. They are, more than most people, free, and are the greatest colonisers the world has ever seen.

The British are an essentially practical people, and their disinclination to take action till the necessity arises makes them deficient as organisers when compared with some of the leading nations of the continent.

Their insularity accounts for some characteristic defects.

Though they have a strong sense of justice, both as regards themselves and others, they are often unable to see that which suits and seems good to them may not suit or seem equally good to others whose history and circumstances are widely different. But, on the whole, it must be admitted that wherever the British have gone, whether as traders or administrators, they have been on the side of freedom and reasonable dealing, and that their behaviour to subject or inferior races compares favourably with that of other dominant peoples in history.

## X. Products and Industries.

MINERALS—

**Coal** is by far the most important mineral product, and is one of the few commodities which the United Kingdom has no need to import. Because of its cheapness and abundance, ores of all kinds, especially iron ore, are brought to Great Britain to be smelted, and cotton, wool, and other raw materials are brought to be manufactured

Coal is thus the basis of the industrial and commercial importance of the United Kingdom, and the ultimate source of its wealth.

The principal coal-fields are in the central lowlands of Scotland, in north, north-west, and part of central England, and in South Wales. Ireland has very little coal.

**Iron** is found in large quantities, usually together with coal, but the best ore is obtained alone in the south-west and south of the English Lake District.

**Copper**, **lead**, **zinc**, and **tin** are extracted, but, except the last, not in sufficient quantities to be important compared with the yield of other countries.

**Salt** is mined in Cheshire and is largely exported.

VEGETABLE PRODUCTS—

**Oats, barley,** and **wheat** are the chief cereals

Oats are mostly grown in the north and west; wheat in the drier eastern districts

**Turnips** and **potatoes** are also important crops, the latter, especially, in Ireland.

**Vegetables** and **fruit** are largely grown in the neighbourhood of all the large towns

ANIMAL PRODUCTS—

Live stock—**horses, cattle**, and **sheep**—are of excellent quality, and much care is taken to improve the breeds. More than half the land under cultivation is pasture land.

Dairy produce—**milk, butter**, and **cheese**—is of increasing importance in connexion with the food supply of the people.

The **herring** fisheries of the North Sea are very valuable.

The United Kingdom no longer produces enough food for its large population. This is partly due to the increased employment of the people in manufacturing industries, and partly to the improvement of communications, whereby foreign food supplies have been cheapened, and the cultivation of corn has ceased to be profitable Hence large quantities of grain, meat, and other food-stuffs have to be imported from other countries.

INDUSTRIES—

Manufacturing industries naturally establish themselves near coal-fields, but other conditions have their effect in determining the special industries of particular places.

For example, the moistness of the air in Lancashire renders it specially favourable to the cotton industry. A dry atmosphere makes it impossible to spin the raw cotton into yarn The jute industry centres in Dundee because the skilled labour and appliances for dealing with jute became available there through the decline of the linen industry just at the time that the Bengal jute trade began to develop.

The chief seats of the principal industries are as follows:

TEXTILE INDUSTRIES—

**Cotton**: Lancashire.

**Woollen goods**: the West Riding of Yorkshire.

**Linen**: Belfast and North-east Ireland.

MECHANICAL AND CHEMICAL INDUSTRIES—

**Iron smelting** and the manufacture of **steel**: on most of the coal-fields.

**Shipbuilding**: on the Clyde, the Tyne, and at Belfast.

**Machinery**: at most of the manufacturing centres.

**Fire-arms, jewellery**, and **hardware** in general. Birmingham and the "Black Country."

**Cutlery, armour-plate**, and **steel rails**: Sheffield.

**Pottery** and **earthenware**: Staffordshire

**Chemicals**: in the Cheshire salt basin, in South Lancashire, on the Tyne, and round Glasgow.

**Paper**: near London, Edinburgh, and other printing centres.

Besides these there are numerous minor industries, such as the manufacture of **cotton hosiery** and **lace** at Nottingham, **boots** and **shoes** at Northampton, **cycles** at Coventry, **carpets** at Kidderminster, **brewing** at Burton, **woollen hosiery** at Leicester; and there are few towns in which some industries suitable to the locality are not carried on.

## XI. Communications.

All parts of the country are well supplied with macadamised

**roads.** **Canals** connect the principal rivers with one another, and a network of **railways**, with London as its centre, brings nearly every part of the United Kingdom within twelve hours of the metropolis.

Daily steamer services connect Holyhead, Liverpool, and other western ports of Great Britain with Dublin, Belfast, and the eastern ports of Ireland.

The southern and south-eastern coasts are similarly connected with the Continent, and Paris is thus brought within eight hours of London, Berlin within twenty-four hours, and Brindisi, whence the mails leave Europe for India, within fifty-eight hours of London

Regular steamer services make the United Kingdom a great centre of communication with the rest of the globe.

There is **telegraphic communication** between all parts of the kingdom, and local business is now largely conducted by means of the **telephone**

Ocean cables connect the United Kingdom with all parts of the world.

The following table gives the distance in miles and in days from the United Kingdom to some important places in other parts of the world

| Place | Distance in Miles | Days' Steaming |
|---|---|---|
| Quebec, | 2,800 | 8 |
| New York, | 3,000 | 6½ to 8½ |
| Jamaica, | 4,700 | 16 |
| Buenos Ayres, | 6,100 | 22 |
| Cape Town, | 6,000 | 20 |
| Bombay, | 6,600 | 20 |
| Colombo, | 7,000 | 26 |
| Calcutta, | 8,200 | 33 |
| Singapore, | 8,300 | 33 |
| Hong Kong, | 9,800 | 41 |
| Yokohama, | 11,600 | 52 |
| Sydney, | 12,100 | 48 |
| New Zealand, | 13,000 | 46 |

## XII. Trade and Commerce.

INTERNAL TRADE—

Owing to the excellence of the means of communication this is very great. Commodities of all kinds, both home and foreign, are available in all parts of the country at prices which are remarkably uniform when compared with the prices in countries where the system of internal communication is less perfect.

Fresh fruit from foreign lands, and fish from the seas around the coasts form part of the ordinary food supply of inland places.

London and other great towns are able to draw on distant parts of the country for dairy produce and other fresh food supplies.

FOREIGN TRADE—

The foreign trade of the United Kingdom far exceeds in value that of any other country.

Various reasons account for this commercial supremacy. One reason is that the great mechanical inventions which enabled the abundant coal supply to be turned to the best account, and revolutionised manufactures of all kinds, originated in the country, and so gave it an advantage over other countries The United Kingdom was thus enabled to manufacture goods far in excess of its own requirements, and trade with other countries sprang up, which consisted chiefly in the exchange of manufactured products for raw materials.

Another reason for the commercial supremacy of the United Kingdom is the great extent of its foreign possessions. It is natural that these should trade most largely with the mother country. The natural enterprise of the British, their insular situation, and the number of good harbours they possess, are also causes tending to make them a great commercial people.

Of late years Germany and the United States have proved themselves formidable competitors with the United Kingdom for the trade of the world, and their success has been largely due to defects which the British manufacturers and merchants perhaps owe to their insularity. They have been backward in realising changed conditions, and in adapting themselves to the requirements of their customers. They have not been sufficiently energetic in putting their goods on the markets of the world in the most attractive and suitable way. However, they still hold the field in most cases where excellence of quality is the prime consideration.

IMPORTS—

The principal imports in order of value are :

**Grain and flour, raw cotton, meat, wool, metals and ores, wood and timber, butter, sugar, silk manufactures, tea, animals** (for food), **flax, hemp,** and **jute, leather** and **hides, oils, fruits, seeds, wine, chemicals** and **dye-stuffs, cheese, eggs, tobacco, coffee.** The imports come, in by far the largest proportion, from the United States, from the various parts of the British Empire itself, and next in order, from France, Holland, Germany, Russia, and Belgium.

Nearly half of the imports are food material, and about one-third are raw materials for manufactures

The United Kingdom is a free-trading country, and customs duties are only levied on about seven per cent. of the total imports, principally **spirits, tobacco, tea,** and **wine.**

EXPORTS—

The principal exports in order of value are :

**Cotton goods, iron** and **steel, machinery, woollen goods, coal** and **fuel, chemicals, wearing apparel, linen goods, copper, jute goods, hardware** and **cutlery.**

Nearly ninety per cent. of the total exports are manufactures, and of these cotton goods far exceed in value any of the others.

More than one-third of the exports go to other parts of the British Empire ; the remainder, in order of value exported, to Germany, the United States, France, Holland, Belgium, Russia, Turkey, Japan, and, in smaller quantities, to every country on the globe

The value of the imports is nearly double the value of the exports. How is this excess of imports paid for? Certainly not in gold and silver, for more bullion is imported annually than is exported. The explanation is that the United Kingdom is a great capitalist. and has money invested in, or lent to, most foreign countries The excess in value of imports over exports therefore represents the interest upon British capital invested abroad.

SEAPORTS—

The principal ports of the United Kingdom, in order of the volume of their trade, are the following :

London : trade mainly import, owing to its being both the chief centre of population, and also the centre of the system of communications. Hence it is the great distributor of commodities inland.

Liverpool . imports from America and West Africa ; exports of manufactured goods and machinery.

Cardiff : chiefly a coal trade.

Newcastle : exports of machinery and coal.
Hull : exports of cotton and woollen goods to the continent.
Glasgow : imports of ore and raw materials ; exports of iron and manufactured goods.
Southampton : passenger trade with America and South Africa

The merchant ships of the United Kingdom are nearly half the total number of vessels afloat, and the importance of the United Kingdom as a carrier of goods for other countries is shown by the fact that about half of the foreign trade of other countries is carried on by British ships

## XIII. Government.

The supreme authority in the United Kingdom is **Parliament,** which consists of

(1) The **Sovereign**, whose office is hereditary ;
(2) The **House of Lords**, consisting chiefly of peers who hold their seats by hereditary right ;
(3) The **House of Commons**, elected by the people.

No law can be made without the consent of these three estates of Parliament, and the House of Commons alone can impose taxation.

The general government of the country is practically carried on by a committee, called the **Cabinet**, which consists of the principal Ministers of State. These are appointed by the Sovereign on the recommendation of the leader of the political party which for the time being commands the confidence of the country, and has a majority of votes in the House of Commons. The leader of this party is desired by the Sovereign to undertake the formation of a Government, and becomes himself **Prime Minister**.

The management of local affairs is in the hands of locally elected bodies, called **County Councils**, which exercise the functions of the district officers in India, but have greater powers. They levy rates for the maintenance of roads, for the payment of the County police and the various officers of the local administration, and for the encouragement of education, and the support of various county institutions.

ARMY—

The British Army is recruited by voluntary enlistment, and is accordingly smaller and more expensive than that of the great continental powers. But, as recent events have proved, it is capable of large and speedy increase in case of necessity.

Were conscription adopted the standing army would be larger than that of France.

NAVY—

The British Navy is the most powerful in the world, and is supposed to be equal to that of any two other powers combined.

The insular position of the United Kingdom, and the great extent of the Empire, makes a large and powerful Navy necessary to guard the coasts and to protect commerce.

EDUCATION—

Primary or elementary education is under State control, and is well looked after. It is compulsory, but the age (eleven) at which children may leave school is lower than in France and Germany.

The proportion of the population unable to read and write has diminished rapidly during the last fifty years, and is now only about four per cent.

Secondary or higher education is not under State control, but is provided by private enterprise, or by money left for the purpose by charitable founders. Its quality varies greatly, and a want of system makes it less generally effective than in Germany, where education is very completely organised.

University education is provided for by a number of universities and university colleges. Most of these have been established of late years, but **Oxford** and **Cambridge Universities**, the **Scotch Universities**, and the **University of Dublin**, are of ancient origin, and have long been famous.

Technical and commercial education are backward, and the want of systematic instruction in Commercial Geography may account for the fact that British trade has of late lost ground in several parts of the world.

EMIGRATION—

The greater part of **North America**, as well as **Australia** and **New Zealand**, was colonised from the British Isles. A large proportion of the white population of **South Africa** is also of British origin.

During the last fifty years about nine millions of people have emigrated from the United Kingdom to the **United States**, **British North America**, **Australasia**, and other parts of the world. At the present time about 200,000 emigrants leave the country annually, the majority of whom go to the United States.

## XIV. The British Empire.

The **United Kingdom**, the **Indian Empire**, and the **British Colonies** and **Protectorates** form the whole which is known as the British Empire.

The total area of the Empire, which is widely scattered over every part of the world, is about 12 millions of square miles, more than one-fifth of the total land surface of the globe. It is only approached in size by Russia. The population of the Empire is nearly 400 millions, more than a quarter of the total population of the globe.

The government of the Empire aims at giving the greatest possible liberty to the very diverse communities that are included within it.

The actual amount of control exercised by the home government varies greatly, and in the case of the self-governing colonies is merely nominal. The privileges of British citizenship are, however, very real. The greatest undoubtedly has been the *pax Britannica*--peace abroad and order at home -which has enabled new or backward countries to develop quietly and naturally, free from the dangers of foreign jealousy and interference

Now that these younger communities have, so to speak, grown up, the idea of **Imperial Federation** has established itself It is felt that there must be a closer union among all parts of the Empire for the purpose of securing its integrity, and utilising its strength The great colonies are anxious to share responsibilities as well as privileges, and there is little doubt that the British Empire will shortly become one whole in a sense which has hitherto been unrealised.

The way in which India is governed has already been described. Colonies are of several kinds .

(1) **Crown Colonies**, like Ceylon, which are entirely controlled by the home government.

(2) **Colonies partly self-governing**, like Mauritius, Jamaica, and other islands of the West Indies, which have a parliament partly elected and partly nominated, while the home government retains the control of public officers.

(3) **Self-governing Colonies**, like the seven Australasian colonies, Canada, Newfoundland, Cape Colony, and Natal, which manage their own affairs under a governor appointed by the Crown

**Protectorates** are administered by British political agents, or by trading companies under Royal charter, or by their own rulers under British protection from foreign interference.

The following table shows the principal constituents of the British Empire in each of the continents.

EUROPE.

**The United Kingdom.**

*Crown Colonies*: Gibraltar, Malta, and Gozo.

ASIA.

**The Indian Empire**

*Crown Colonies*: Ceylon, the Straits Settlements, Hong Kong.

*Protectorates*: Cyprus, the Malay Protected States.

AFRICA

*Colonies*· the South African Colonies, the West African Colonies, Mauritius, St Helena.

*Protectorates*: Basutoland, Bechuanaland, British Central Africa, British East Africa, British South Africa

AUSTRALASIA.

*Colonies*. the Australian Colonies, Tasmania, New Zealand, the Fiji Islands, British New Guinea.

*Protectorates*: British North Borneo, Brunei, and Sarawak, and various island groups in the Pacific Ocean.

AMERICA.

*Colonies*: Canada, Newfoundland and Labrador, Bermuda, the West Indies, Honduras, British Guiana, the Falkland Islands.

QUESTIONS.

1. What is meant by the United Kingdom? Explain the meaning of the word "British."

2. What parts of the United Kingdom are outside the parallels of 50° and 60° N. lat? What parts are outside the meridians of long. 1° E. and long. 10° W?

3. How does the United Kingdom compare, as to size, with Bengal?

4. Name from the map the greater indentations in the coasts of Great Britain and Ireland, and make a list of the most marked projections.

5. What are the main features of the relief of the British Isles?

6. What is the general character of the climate of the British Isles?

7. What are the principal mineral products of the United Kingdom? Draw a sketch map, showing the position of the great coalfields.

8. What are the chief industries, and where are they carried on?

9. What is the effect of the rapid means of internal communication in the United Kingdom upon its internal trade?

10. Name the five principal imports, and say why they are imported,

11. Name the five principal exports, and account for their importance. Where do they chiefly go? Why are the imports so much more valuable than the exports?

12. Describe exactly the geographical situation of the chief seaports; state and account for the nature of their trade.

13. Why does the United Kingdom need a large navy?

14. What parts of the world are now colonised by people of British extraction? How are these colonies governed?

## ENGLAND AND WALES.

### I. Introductory.

England and Wales form the southern and larger portion of the island of Great Britain. They were politically separate from Scotland until the union of the crowns of England and Scotland under James the First, three hundred years ago.

> Wales, which occupies the peninsula between the estuary of the Dee and the Bristol Channel, was the last stronghold of the Keltic inhabitants of South Britain, and retained its independence under native princes until the thirteenth century.

### II. Shape and Size.

England and Wales form a rough triangle having its base on the English Channel and its vertex on the North Sea on the borders of Scotland.

> The extreme length from Berwick-on-Tweed in the north-east to Lizard Head in the south-west is about 400 miles; and the extreme breadth from Lowestoft Ness in the east to Land's End in the south-west is about 360 miles.
>
> The area of England and Wales is 58,309 square miles, the area of England alone being something over 50,000 square miles, or one-ninth more than the area of Bihar.

### III. Boundaries.

On the *North*, England is separated from Scotland by the Solway Firth, the Cheviot Hills, and part of the River Tweed.

On the *East*, the North Sea separates England from Denmark, Germany, Holland, and Belgium.

On the *South*, the English Channel separates England from France.

On the *West*, England and Wales are separated from Ireland by the Atlantic Ocean, St. George's Channel, and the Irish Sea.

## IV. Relief.

A line, curving slightly eastward, from the mouth of the Tees in Durham to the mouth of the Exe in Devonshire, divides the highlands of the north and west from the lowlands of the east and south, and marks the main waterparting of England.

MOUNTAINS—

The **Pennine Range** is the main waterparting in northern England. It runs from the Cheviot Hills on the Scottish border to the Peak district in Derbyshire. The highest points approach 3000 feet.

The **Cumbrian Group**, west of the Pennines, occupies the peninsula between Solway Firth and Morecambe Bay in Lancashire. **Scafell Pike,** 3200 feet, is the highest point in England

**Helvellyn, Scafell,** and **Skiddaw** also exceed 3000 feet.

The **Cambrian Mountains** consist of various groups in Wales. **Snowdon,** 3570 feet, is the highest mountain in South Britain.

The **Devonian Uplands** occupy the Cornwall and Devon peninsula. They form extensive plateaux, of which the largest are **Dartmoor** and **Exmoor.**

The highest point of Dartmoor exceeds 2000 feet.

Minor elevations are the **Cotswold Hills,** which separate the basins of the Thames and Severn, and form part of the main waterparting; **Salisbury Plain** and the **North Downs,** which form the waterparting between the rivers of central England and the smaller streams which flow to the south coast, the **Chiltern Hills, Marlboro Hills,** and the **South Downs.** The North Downs terminate in the white chalk cliffs of Dover and the **Forelands**; the South Downs in **Beachy Head.**

## V. Rivers and Lakes.

The principal rivers of England are the **Thames, Severn, Trent, Yorkshire Ouse, Great Ouse,** and **Wye,** all which, except the Severn and Wye, flow across the eastern lowlands to the North Sea.

The **Mersey, Tyne, Wear, Tees,** and **Medway** have an importance due to the industrial towns and seaports situated on them.

The **Thames** (210 miles), the chief river of England, rises in Gloucestershire, in the Cotswold Hills, and drains the south of central England. As far as Oxford it is called the Isis Its course is generally east, past Oxford, Reading, Windsor, London, and Woolwich to the Nore, the part of its estuary where it meets the sea. It is navigable by ocean steamers to London Bridge.

The **Severn** (210 miles), the second river of England, rises on Plinlimmon, a mountain in Mid Wales, and drains the eastern slopes of Wales. The only important tributary it receives from central England is the **Avon,** flowing past Warwick and Stratford-upon-Avon. The Severn takes a semicircular course past Shrewsbury, Worcester, and Gloucester to the Bristol Channel.

The **Trent** (170 miles) rises in Staffordshire, and, flowing past Nottingham, drains central England. Its course is mostly north-east and north till it joins the Yorkshire Ouse to form the estuary of the **Humber,** which is navigable by the largest ships to Hull

The **Yorkshire Ouse** (150 miles) drains Yorkshire east of the Pennine range, and flows into the Humber It is navigable by small vessels to York.

The **Great Ouse** (160 miles) drains the plain of eastern England. It flows past Buckingham, Bedford, and Ely to the Wash. Owing to the shallowness of the Wash, the rivers flowing into it are of little use for navigation

The **Wye** (130 miles) rises on Plinlimmon near the Severn, drains central Wales, and flows through Hereford and Monmouth to the Severn estuary The scenery on the Wye is very beautiful. It is navigable for large vessels to Chepstow, where the rise of tide, 46 feet, is only exceeded in the Bay of Fundy.

LAKES--

The English Lake District is in the Cumbrian Hills in the north-west of England, and is famous for its picturesque scenery. The lakes, of which the largest is **Windermere,** ten miles long, occupy valleys radiating from the central point of the mountain mass of the district.

**Bala,** through which the River Dee flows, is the largest lake in Wales.

## VI. Population.

England and Wales have now about 32½ million inhabitants, or 550 to the square mile. This density of population approaches that of Bihar, the most thickly populated part of India.

## VII. Political Sub-divisions and Towns.

The forty counties or shires (=shares) into which England was from ancient times divided, in many cases represented early divisions of the Anglo-Saxon kingdoms. Recently London has been made a county by itself, so that the actual number of counties is now forty-one.

Wales is divided into twelve counties.

## LONDON.

The **County of London** comprises parts of Kent, Surrey, and Middlesex, and covers an area of 118 square miles, with a population of 4½ millions **London**, in the geographical sense of the word, is the single whole of streets, dwellings, and other buildings to which the name London can properly be applied. In this sense the county does not comprise the whole of London, for part of the densely crowded East End extends into Essex, and forms the separate municipality of West Ham.

London is the capital of the United Kingdom, the metropolis of the British Empire and the actual seat of its administration, and by far the largest city in the world It had, in 1898, a population of nearly 4¾ millions, or, including the immediate suburbs, of over 6 millions. It is situated on both banks of the Thames, and the port extends down the river from London Bridge to the Nore. Its trade is greater than that of most countries, and in many respects London is the commercial centre of the world. Almost every kind of manufacture is carried on

Architecturally London is less imposing than Paris and some other cities, but it has many fine streets and splendid buildings, and many objects of historical interest.

Owing to the excellence of its sanitary arrangements London is one of the healthiest cities in the world Its death-rate is very little more than that of England generally, and is less than that of most of the largest towns

London is the seat of a University and of a Bishopric

The zero meridian of longitude passes through **Greenwich Observatory** in the south-east of London Farther down the river is **Woolwich**, an outlying suburb included in the county of London, where is the great national arsenal

## I. The Six Northern Counties.

| Name | County Town |
|---|---|
| Northumberland, - - | Newcastle. |
| Durham, - - - | Durham. |
| Cumberland, - - - | Carlisle. |
| Westmoreland, - - - | Appleby. |
| Yorkshire, - - - | York. |
| Lancashire, - - - | Lancaster. |

Yorkshire, the largest of English counties, is divided into three Ridings (=thirds)

These counties occupy all northern England from sea to sea, with the **Pennine Range** as their backbone. The only considerable extent of plain is in the East and North Ridings of Yorkshire.

TOWNS—

*Northumberland*: **Newcastle-on-Tyne** (214,000), the county town, has long been famous for its coal. It is also a great shipbuilding place, and is the fourth port in the kingdom.

*Durham*: **Sunderland** (159,000), at the mouth of the Wear, is a great shipbuilding and coal-shipping port. **Gateshead** (109,000) is practically one with Newcastle on the other side of the Tyne. **South Shields** (97,000) is a coal port at the mouth of the Tyne. **Durham** (15,000), the county town and seat of a University, is an ancient city. The cathedral and castle are splendidly situated on the top of a rocky height.

*Cumberland*: **Carlisle** (43,000), the county town, and the only large town in the county, is an ancient cathedral city, not far from the Scottish border

*Westmoreland*: **Kendal** (14,000), the largest town, is one of the oldest woollen manufacturing towns in the kingdom

*Yorkshire*. **Leeds** (428,000) and **Bradford** (279,000), both in the West Riding, are centres of the woollen industry. Leeds manufactures broadcloths, and Bradford worsted yarn and stuffs. Leeds has also great engineering works. **Kingston-upon-Hull** or **Hull** (238,000), in the East Riding, on the Humber, is the fifth port in the kingdom. It exports manufactures and coal to the continent. **Huddersfield** (95,000) and **Halifax** (105,000) are West Riding woollen towns. **Sheffield** (380,000), in the south of the county, is the centre of the cutlery trade **Middlesborough** (91,000), in the North Riding, near the mouth of the Tees, is a great iron-smelting place. **York** (77,000), the county town, is one of the most ancient cities in England. It was the capital of Roman Britain. It is still surrounded by its medieval walls, and has a splendid cathedral It is almost equidistant from London and Edinburgh.

*Lancashire*: **Manchester**, including **Salford**, with which it is continuous, has 765,000 inhabitants, and is the second city in the kingdom. It is the centre of the cotton trade, and is connected with the Mersey estuary by a ship canal. **Liverpool** is the great port for the Atlantic trade. Its population is 685,000, or including **Birkenhead**, on the other side of the Mersey, 796,000. **Bolton, Blackburn, Burnley, Preston,** and **Oldham** are all busy cotton towns, each with more than 100,000 inhabitants. **Wigan, Bury, Rochdale** are smaller cotton towns; **St. Helens** makes glass; and **Barrow-in-Furness**, in the Lake District, has risen to importance by its manufacture of steel and iron.

## II. The Four Western Counties.

| Name | County Town. |
|---|---|
| Cheshire, | Chester. |
| Shropshire, | Shrewsbury. |
| Herefordshire, | Hereford. |
| Monmouthshire, | Monmouth. |

These are four counties on the Welsh border, near which they generally become mountainous.

Towns—

*Cheshire*: **Birkenhead** (111,000), on the Mersey, has extensive docks, and is practically a part of the port of Liverpool. **Stockport** (78,800), on the Mersey near Manchester, has a large cotton industry. **Macclesfield** (37,000) has a silk industry. **Chester** (46,200), on the Dee, a cathedral city, has existed from Roman times, and the circuit of its ancient walls is still complete.

*Shropshire*: **Shrewsbury** (28,000) is a picturesque town on the Severn with a famous school.

*Herefordshire*. **Hereford** (21,300), on the Wye, is a cathedral city.

*Monmouthshire*: **Newport** (67,000), on the Usk, near the Severn estuary, exports great quantities of coal from the South Wales coal-fields, and more iron than any other port in England.

## III The Five Eastern Counties.

| Name. | County Town |
|---|---|
| Lincolnshire, | Lincoln |
| Cambridgeshire, | Cambridge |
| Norfolk, | Norwich. |
| Suffolk, | Ipswich. |
| Essex, | Chelmsford |

These counties occupy the lower basins of the rivers flowing to the Wash and the East Coast north of the Thames estuary Around the Wash are the low-lying **Fenlands**, once covered with swamp and marsh, but now drained and cultivated.

Towns—

*Lincolnshire*: **Grimsby** (63,000), at the mouth of the Humber, is a great fishing port, and imports wool and other raw materials from the Continent. **Lincoln** (48,500), situated on a height crowned by the cathedral, has a considerable manufacture of agricultural implements and machinery.

*Cambridgeshire*: **Cambridge** (38,000) is the seat of the famous University of that name.

*Norfolk*: **Norwich** (111,000) is a cathedral city, and the largest town in the eastern counties It has various industries, the chief being the manufactures of mustard and starch. **Great Yarmouth** (51,000) is a fishing port, and the chief seat of the herring trade.

*Suffolk*: **Ipswich** (66,000) manufactures agricultural implements.

*Essex*: **Colchester** (38,000), at the head of navigation on the Colne, makes boots and shoes.

## IV. The Five North-Midland Counties.

| Name. | County Town |
|---|---|
| Nottinghamshire, - - | Nottingham. |
| Derbyshire, - - | Derby. |
| Staffordshire, - - - | Stafford. |
| Leicestershire, - - - | Leicester. |
| Rutland, - - - - | Oakham. |

These counties belong almost entirely to the basin of the Trent.

TOWNS—

*Nottinghamshire*: **Nottingham** (240,000), on the Trent, is the county town, and the largest town in the north midlands. It manufactures cotton hosiery, and is the chief centre of the lace industry.

*Derbyshire*: **Derby** (106,000), the county town, on a tributary of the Trent, manufactures iron and silk.

*Staffordshire*. **Wolverhampton** (94,000), in the Black Country, produces hardware of every description Its speciality is locks **Walsall** (86,000) manufactures hardware and saddlery, and **West Bromwich** (65.000) is another hardware town in the Black Country. **Stoke-upon-Trent** (30,000), in the north of the county, is the centre of the pottery and porcelain manufacture. **Stafford** (20,000) makes boots and shoes.

*Leicestershire*: **Leicester** (211,000), the county town, is the centre of the woollen hosiery manufacture. Boots and shoes are also largely made.

## V. The Nine South-Midland Counties.

| Name | County Town |
|---|---|
| Bedfordshire, - - | Bedford |
| Huntingdonshire, - - | Huntingdon. |
| Northamptonshire, - - | Northampton. |
| Warwickshire, - - - | Warwick. |
| Worcestershire, - - | Worcester. |
| Gloucestershire, - - | Gloucester. |
| Oxfordshire, - - - | Oxford |
| Buckinghamshire, - - | Buckingham. |
| Hertfordshire, - - - | Hertford. |

The first three of these counties belong almost entirely to the basin of the Wash; the rest belong mainly to the basins of the Severn and Thames.

TOWNS—

*Bedfordshire*: **Bedford** (35,000), on the Ouse, manufactures agricultural implements.

*Northamptonshire*. **Northampton** (87,000) is the chief seat of the boot and shoe manufacture in England. **Peterborough** (31,000) has a fine cathedral.

*Warwickshire*: **Birmingham** (522,000), the fifth town of England, is the capital of the Black Country, the great coal and iron district of central England, which comprises adjacent parts of Warwickshire, Staffordshire, and Worcestershire. Its industries are iron and brass founding and metal work of all kinds, gun making, electroplating, and the manufacture of clocks, watches, and jewellery It is the seat of a new university. **Coventry** (70,000) is the chief seat of the cycle manufacture; it also makes ribbons and watches **Warwick** (12,000), on the Avon, has a noble medieval castle, and **Leamington** (27,000), close to Warwick, is a well-known inland watering-place.

*Worcestershire*: **Worcester** (46,000), on the Severn, is a cathedral city, and the chief seat of the glove manufacture. Porcelain is also made. **Dudley** (49,000), a hardware town in the Black Country, principally manufactures nails. **Kidderminster** (25,000) is famous for its carpets.

*Gloucestershire*: **Bristol** (328,000), a seaport and cathedral city on the Lower Avon, a river flowing to the Bristol Channel, is the largest town in the West of England. It stands on a small coal field, and has numerous industries, for which its imports of sugar, tobacco, leather, etc., furnish the raw material. **Cheltenham** (49,000) is a fashionable watering-place under the Cotswold Hills **Gloucester** (48,000), a cathedral city, on the Severn, is a considerable manufacturing town and a small port.

*Oxfordshire*: **Oxford** (49,000) is situated on the Upper Thames or Isis. It is a cathedral city, but is best known as the seat of the oldest English University, whose colleges and other buildings make it one of the most beautiful towns in the world.

*Hertfordshire* **St Albans** (16,000), a cathedral city, is the largest town Straw-plaiting is the local industry.

## VI. The Four South-Eastern Counties.

| Name. | County Town. |
|---|---|
| Middlesex, - - - - | Brentford. |
| Surrey, - - - - - | Guildford. |
| Kent, - - - - - | Maidstone. |
| Sussex, - - - - - | Lewes. |

Middlesex and the northern parts of Surrey and Kent belong to the Thames basin.

TOWNS—

*Middlesex*: **Enfield** (42,000), the largest town, manufactures military rifles **Harrow**, famous for its school, **Hounslow**, and **Brentford**, are small towns with less than 10,000 inhabitants

*Surrey*: **Croydon** (134,000), the largest town, is a residential suburb of the metropolis

*Kent* · **Canterbury** (25,000) has a famous cathedral The Archbishop of Canterbury is the Primate of all England. **Rochester** (30,000), with its castle and cathedral, and **Chatham** (40,000), with its great military and naval arsenal and dockyard, are adjoining towns on the estuary of the Medway **Maidstone** (33,000) is a centre of the hop trade. **Dover** (41,000) is the chief port of departure to the continent. The crossing to Calais takes about an hour.

*Sussex*: **Brighton** (123,000), a seaside resort for Londoners, is the largest town. **Hastings** (65,000) is another popular watering-place on the English Channel.

## VII. The Four Central-Southern Counties.

| Name. | County Town |
|---|---|
| Berkshire, | Reading. |
| Wiltshire, | Salisbury. |
| Hampshire, | Winchester. |
| Dorsetshire, | Dorchester. |

**Salisbury Plain,** an extensive chalk upland in south Wiltshire, is the principal feature of the relief of this part of England. Drainage flows in three directions from it to the Severn, the Thames, and the English Channel. It is also the starting-point of the chalk hills or **downs** that run through the southern counties The south-west of Hampshire is occupied by the **New Forest.**

The **Isle of Wight** forms part of the county of Hampshire.

TOWNS—

*Berkshire*: **Reading** (72,000), at the junction of the Kennet with the Thames, is noted for biscuits and seeds. **Windsor** (14,000), lower down the Thames, is known for its magnificent castle, which is the principal residence of the sovereigns of the United Kingdom. On the other side of the Thames, in Buckinghamshire, is **Eton**, famous for its public school.

*Wiltshire*: **Salisbury** (17,000), with its unique cathedral, stands on the southern margin of Salisbury Plain, on which is **Stonehenge**, the remains of a prehistoric temple, consisting of circles of gigantic stones.

*Hampshire*: **Portsmouth** (189,000) is the chief naval port of the kingdom, with great dockyards. Its harbour opens on to Spithead, which affords safe anchorage for over a thousand ships. **Southampton** (105,000), at the head of the long inlet called Southampton Water, is the port for the mail steamers to the West Indies, Brazil, and South Africa, and also a port of call for steamers from the continent to America. **Winchester** (21,000) is situated near the middle of the county, and is notable for its cathedral and public school.

*Dorsetshire*: **Weymouth** (19,000), on the great harbour formed by the Isle of Portland, is the largest town, and a watering-place.

## VIII. The Three South-Western Counties.

| Name. | County Town. |
|---|---|
| Somersetshire, | Taunton. |
| Devonshire, | Exeter |
| Cornwall, | Bodmin. |

The Cornish Uplands terminate in the rugged headlands of Land's End and Lizard Head.

The **Scilly Islands** belong to Cornwall The people are employed in **fishing**, and, owing to the mildness of the climate, they are able to grow **early fruit** and **flowers** for the London market.

TOWNS—

*Somersetshire* **Bath** (50,000), on the Avon above Bristol, is an inland watering-place, with hot springs which were famous even in Roman times

*Devonshire*: **Plymouth**, with **Devonport** (177,000), is beautifully situated at the head of Plymouth Sound, on the Tamar, which separates Devon from Cornwall It is a great naval port and arsenal. **Exeter** (47,400) is an old cathedral city. **Torquay** (33,000) is a picturesque modern watering-place on Tor Bay.

*Cornwall*: **Truro** (11,000), a cathedral city on the upper part of the fine harbour of Falmouth, is the largest town.

## IX. The Six Counties of North Wales.

| Name | County Town |
|---|---|
| Flintshire, | Flint. |
| Denbighshire, | Denbigh. |
| Carnarvonshire, | Carnarvon. |
| Anglesey, | Beaumaris. |
| Merionethshire, | Dolgelly. |
| Montgomeryshire, | Montgomery. |

The surface of these counties is generally mountainous.

TOWNS—

**Carnarvon**, on the Menai Strait, which separates Anglesey from the mainland, is the only town with 10,000 inhabitants.

**Holyhead**, on a small island north-west of Anglesey, is the starting point of the Irish mail steamers

**Newtown**, on the Severn, in Montgomeryshire, is the centre of the Welsh flannel manufacture.

## X. The Six Counties of South Wales.

| Name | County Town. |
|---|---|
| Radnorshire, | New Radnor |
| Brecknockshire, | Brecon |
| Cardiganshire, | Cardigan. |
| Pembrokeshire, | Haverfordwest. |
| Carmarthenshire, | Carmarthen. |
| Glamorganshire, | Cardiff |

These counties are also for the most part hilly or mountainous; the highest summits being **Plinlimmon**, 2470 feet, in Cardigan, near the borders of Montgomeryshire, and the **Brecon Beacons**, 2900 feet, in Brecknockshire.

TOWNS—

**Cardiff** (164,000), on the Severn estuary, is the largest town in Wales, and one of the seats of the Welsh University. It has docks, large iron and steel works, and is the greatest coal port in the United Kingdom

**Swansea** (94,000), on Swansea Bay, in Glamorganshire, is the second town in Wales. It is the principal seat of the tin-plate manufacture, and copper ore is brought here in enormous quantities from other countries to be smelted and refined. **Merthyr-Tydfil** (69,000) is the central town of the South Wales coal-field **Carmarthen** is the only other town with 10,000 inhabitants.

## THE ISLE OF MAN.

The Isle of Man is situated in the Irish Sea, about fifty miles from each of the three kingdoms. It is a self-governing dependency, enjoying complete home rule under a governor appointed by the Crown.

The centre and south of the island are hilly, and there are important **lead mines**

The people are of Keltic origin, and their language is Manx.

The capital is **Douglas**, a small town on the east coast.

## THE CHANNEL ISLANDS.

The Channel Islands are likewise self-governing dependencies. They lie off the coast of Normandy, and the people are of Norman race, and speak French.

The largest islands are **Jersey** (capital, **St. Helier**), **Guernsey** (capital, **St. Peter Port**), and **Alderney.**

The islands have a mild climate, and the inhabitants are chiefly employed in **market gardening.** Their **cattle** are famous as milk-producers.

### QUESTIONS.

1. Describe the main waterparting of England, mentioning the various ranges that form part of it.

2. Describe the courses of the Thames, Severn, and Trent.

3. Where are the English Lakes? To what class of lake do they belong?

4. What is the county of London? In what ways is London specially fitted to be the capital of the Kingdom and the Empire?

5. Describe the situation of the following towns, and say what they are noted for Newcastle, Carlisle, Leeds, York, Manchester, Liverpool, and Sheffield.

6. In what counties are the "Black Country" and the "Potteries." Mention the principal towns of each, giving their special industries.

7. Give some account of the south-midland counties. What do you know about Coventry, Worcester, Oxford, Bristol, Northampton, St. Albans?

8. Where are Dover, Reading, Salisbury, Portsmouth, and Weymouth, and for what are they noteworthy?

9. Where and what are Plinlimmon, Bala, Cader Idris, Jersey, Exmoor, Stonehenge, Spithead, Harrow, the Weald, the New Forest, the North Foreland, the Chilterns, the Wash, the East Riding, Douglas, St. Peter Port?

10. Where are boot and shoes, lace, hosiery, biscuits, mustard, carpets, porcelain, agricultural implements, and straw-plait made?

11. Make a list, from the map, of the maritime counties of England and Wales, giving the ports and harbours on the coast of each county, and the rivers, if any, on which they stand.

## SCOTLAND.

### I. Shape and Size.

**SCOTLAND**, or North Britain, is the northern portion of the island of Great Britain.

In shape it is most irregular. The coast is greatly indented, on the east by wide-opening firths, and on the west by long narrow inlets or fiords, locally called lochs, many of which have the most romantic scenery.

Its greatest length is under 300 miles; the breadth varies from 150 miles to about 30 miles between the heads of the Firths of Forth and Clyde.

The total area, including that of its numerous islands, is nearly 30,000 square miles, a little more than half that of England and Wales. Only about a quarter of this area is under cultivation.

## II. Boundaries.

On the North: the Atlantic Ocean.
On the East: the North Sea.
On the South: England.
On the West the Atlantic Ocean and North Channel.

## III. Relief.

The surface features of Scotland give rise to three natural divisions of the country: the **Highlands**, the **Lowlands**, and the **Southern Uplands**.

The **Highlands** lie north of a line drawn from a point a little below Aberdeen to Greenock, at the mouth of the Clyde. They are a moorland plateau cut up by numerous deep valleys, many of which contain lakes, or lochs.

A great cleft across the Highlands, from Moray Firth to Loch Linnhe, occupied by the Caledonian Canal and several lakes, divides the Highlands into two parts.

The **Lowlands** occupy central Scotland between the Highlands and the Southern Uplands. The average height of the country is below 600 feet, whereas that of the Highlands is 1500 feet. This region is the most fertile, the richest in mineral wealth, and, consequently, the most populous part of Scotland.

The **Southern Uplands** occupy the country between the English border and a line drawn from Dunbar on the east coast to Ayr on the west coast. They have an average height of near 1000 feet.

MOUNTAINS—

No well defined ranges can be distinguished in the Highlands. The highest summits are **Ben Nevis**, 4406 feet, at the head of Loch Linnhe, the highest mountain in the British Isles; and **Ben Macdhui**, 4300 feet.

The edge of the plateau to the south has the appearance of a range of mountains, to which the name of the **Grampian Mountains** is given.

Several minor ranges cross the Lowlands

The Southern Uplands, in which the highest point is under 3000 feet, are connected with the **Cheviot Hills**, a grassy range, partly in Scotland and partly in England, which rises to 2680 feet

## IV. Rivers and Lakes.

Most of the Scotch rivers have short and rapid courses, and, except in their estuaries, are useless for navigation.

The largest are, in order, the **Tay, Tweed** (partly in England), **Clyde, Spey,** and **Forth** ; of these the Clyde, Forth, and Tay are the most important as water-ways.

The **Tay** (120 miles) drains the central southern Highlands, and takes more water to the sea than any other river in Britain. It enters the North Sea near Dundee.

The **Tweed** (96 miles) drains the east of the Southern Uplands and enters the North Sea at Berwick.

The **Clyde** (106 miles) rises near the Tweed and flows north-west across the Lowlands, past Glasgow, to its estuary at Dumbarton.

The **Spey** (110 miles) drains the north-east Highlands, and flows to the Moray Firth. It is the most rapid river in Britain.

The **Forth** (70 miles), a very winding river, rises on Ben Lomond in the south-west Highlands, and flows across the Lowlands past Stirling to the Firth of Forth.

LAKES—

The name **loch** is given to lakes proper, as well as to the fiords that indent the coast. The Scotch lakes are often of romantic beauty. **Loch Lomond,** the largest lake in Great Britain, **Loch Katrine,** and **Loch Awe** are among the best known.

## V. Population.

The population of Scotland is now about 4,472,000, about 140 inhabitants to the square mile. The Highlands, in which the people are of Keltic race, are very sparsely populated.

## VI. Political Sub-Divisions and Towns.

Scotland is divided into thirty-three counties.

## The Fifteen Highland Counties.

| County. | County Town. |
|---|---|
| Shetland, | Lerwick. |
| Orkney, | Kirkwall. |
| Caithness, | Wick. |
| Sutherland, | Dornoch. |
| Ross and Cromarty, | Dingwall. |
| Inverness, | Inverness. |
| Nairn, | Nairn. |
| Elgin, | Elgin. |
| Banff, | Banff. |
| Aberdeen, | Aberdeen. |
| Kincardine, | Stonehaven. |
| Forfar,* | Forfar |
| Perth,* | Perth. |
| Argyle, | Inverary. |
| Bute, | Rothesay. |

The Highlands are a picturesque country of moor, mountain, and loch, the home of deer and wild-fowl. The soil is barren, and there is little cultivation except in the valleys leading to the Lowlands or the sea.

The **Shetlands** are the most northerly group of islands in the kingdom. The inhabitants are mostly fishermen. Shetland ponies are famous.

The **Orkneys** lie off the rock-bound northern coast, separated from it by the Pentland Firth They have much more land under cultivation than the Shetlands.

The **Hebrides**, unlike the Orkneys and the Shetlands, do not form a county by themselves, but belong to the adjacent counties of the mainland. **Lewis**, in the Outer Hebrides, and **Skye**, in the Inner Hebrides, are the largest of the minor islands of the British Isles.

TOWNS—

- **Dundee** (160,800), on the Tay, in Forfarshire, is the chief seat of the jute manufacture in the United Kingdom.
- **Aberdeen** (143,700) is a port with a large fishing trade, and is also a busy manufacturing town. It has a University.
- **Perth** (32,800), the principal railway centre in the Highlands, is noted for its bleaching and dye-works.

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* Forfar and Perth are partly in the Lowlands.

## The Eleven Lowland Counties.

| Name. | County Town. |
|---|---|
| Fife, - - - - - | Cupar. |
| Kinross, - - - - | Kinross. |
| Clackmannan, - - - | Clackmannan. |
| Stirling, - - - - | Stirling. |
| Dumbarton, - - - | Dumbarton. |
| Renfrew, - - - - | Renfrew. |
| Ayr, - - - - - | Ayr. |
| Lanark, - - - - | Lanark. |
| Linlithgow (West Lothian), | Linlithgow. |
| Edinburgh (Mid Lothian), | Edinburgh. |
| Haddington (East Lothian) | Haddington. |

These counties are, for the most part, fertile, and support a skilful agricultural population

There is also much mineral wealth, chiefly **coal** and **iron**, which supports extensive industries and manufactures.

TOWNS —

**Edinburgh** (316,400), the capital of Scotland, and the seat of a famous University, is most picturesquely situated near the south bank of the Firth of Forth. It is the chief centre of the printing trade outside London.

**Glasgow** (735,900), in Lanarkshire, on the Clyde, a University town, is the great centre of Scotch trade and manufactures. It has great shipbuilding works, cotton spinning and weaving mills, engineering and chemical works. Its prosperity is due to the coal-field on which it stands, and to the conversion of the Clyde into a river navigable by ocean steamers, which has made it the sixth port in the kingdom.

**Leith** (76,600) is the port of Edinburgh, and does a large trade with the north-western countries of the continent. It has shipbuilding yards and various manufactures.

**Paisley** (79,300), near Glasgow, manufactures cotton thread.

**Greenock** (67,600), in Renfrewshire, at the mouth of the Clyde, has extensive docks, shipbuilding works, and sugar refineries.

## The Seven South Upland Counties.

| Name. | County Town. |
|---|---|
| Berwick, - - - - | Greenlaw. |
| Roxburgh, - - - - | Jedburgh. |
| Selkirk, - - - - | Selkirk. |
| Peebles, - - - - | Peebles. |
| Dumfries, - - - - | Dumfries. |
| Kirkcudbright, - - - | Kirkcudbright. |
| Wigtown, - - - - | Wigtown. |

These counties are chiefly **pastoral**, and support great numbers of sheep.

TOWNS—

**Galashiels** (13,500), on the Tweed, and **Dumfries** (17,000), on the north of Solway Firth, have woollen manufactures.

QUESTIONS

1. Name, from the map, the lochs of the west coast of Scotland. What is the most westerly point of the mainland?
2. Name, from the map, the capes of the northern and eastern coasts. Where does Scotland come nearest to Ireland?
3. Compare Scotland, as to size, with England and with Ireland, and with London as to population.
4. Describe the three natural divisions of Scotland. How are the Highlands sub-divided?
5. Describe the courses of the Tay, the Clyde, and the Forth. Do any of these rivers drain lochs? (Consult the map.)
6. Find, from the map, the straits separating the Orkneys and the Outer Hebrides from the mainland.
7. Where is the mineral wealth of Scotland mostly found?
8. In what ways do the Southern Uplands differ from the Highlands?
9. Describe the situation of the following towns, and say what they are noted for:

   Dundee, Aberdeen, Edinburgh, Glasgow, Greenock.
10. Make a list, from the map, of the maritime counties of Scotland, giving the ports and harbours on the coast of each, and the rivers, if any, on which they stand.

# IRELAND.

## I. Position, Shape, and Size.

IRELAND, sometimes poetically called Erin, lies to the west of Great Britain. The two islands are nearest one another in the North Channel, where the distance from the Mull of Kintyre, the southernmost point of Argyleshire, to Fair Head in Antrim is only 14 miles.

In shape Ireland is a rough parallelogram, the east coast being the least broken. No place is more than 50 miles from the sea.

The extreme length of Ireland, from Fair Head to Mizen Head in the south-west of Cork, is about 300 miles. The greatest breadth is 170 miles.

The area, 32,583 square miles, is rather greater than that of Scotland. About one quarter of Ireland is bog and waste land, but better drainage would make much of this cultivable.

## II. Boundaries.

On the North, West and South: the Atlantic Ocean

On the East; the North Channel, the Irish Sea, and St. George's Channel.

## III. Relief.

The great central plain of Ireland is mostly undulating or level, but there are occasional minor hill ranges.

MOUNTAINS –

The mountains of Ireland occur in isolated groups around the central plain. They are situated for the most part in the seaboard counties, and the highest summits are found in the **Macgillicuddy's Reeks,** 3400 feet, in the south-west. The most inland group is the **Slieve Bloom** Mountains, 1730 feet. Most of the groups have peaks of 2000 feet and upwards.

## IV. Rivers and Lakes.

The main water-parting of Ireland is much nearer the east coast than the west, and therefore most of the drainage flows to the Atlantic. Owing to the flatness of the central plain, the rivers flowing through it are slow and navigable.

The largest rivers are the **Shannon, Erne, Foyle, Bann, Boyne, Barrow,** and **Blackwater.**

The **Shannon** (225 miles), the largest river in the British Isles, rises north of the central plain, and takes a southerly course through it, expanding into several loughs. (Lough, = loch, is the local name for lake ) It is navigable for most of its course, and enters a long estuary below Limerick.

LAKES—

Most of the lakes are lowland lakes, occupying hollows in the plains. **Lough Neagh** is the largest lake in the British Isles.

The Lakes of **Killarney** are small, mountain lakes in the Macgillicuddy's Reeks, and are famous for the beauty of their scenery.

## V. Climate and Products.

The climate of Ireland is particularly moist and mild, and the vegetation is of characteristic greenness. Hence the name

"Emerald Isle." It is too wet to be a good corn country, but it is the greatest **potato-growing** country in the world, and the potato is the staple food of the peasantry.

Ireland is noted for **horses, swine,** and **dairy produce.**

## VI. People.

The population of Ireland is now about 4½ millions, less than 140 inhabitants to the square mile.

Owing to emigration the population has been declining since the beginning of the century, when there were two million more inhabitants than at present.

The Irish are mostly Kelts, and about one-fifth of them speak a Keltic language (Erse), but nearly all understand English.

## VII. Political Sub-divisions and Towns.

Ireland is divided in four provinces—Ulster, Munster, Leinster, and Connaught—and thirty-two counties.

### I. Ulster.

| Counties | County Town |
|---|---|
| Donegal, | Lifford. |
| Londonderry, | Londonderry. |
| Antrim, | Belfast. |
| Down, | Downpatrick. |
| Armagh, | Armagh. |
| Monaghan, | Monaghan. |
| Cavan, | Cavan. |
| Fermanagh | Enniskillen. |
| Tyrone, | Omagh. |

Ulster occupies north and north-east Ireland, and is the most thickly populated and most prosperous province. Many of the people are descended from Scotch immigrants. The manufacture of **linen** is the staple industry.

Towns—

**Belfast** (348,900), at the head of Belfast Lough, is the chief manufacturing and commercial town of Ireland. It is the principal centre of the linen industry in the British Isles. It has important shipbuilding yards. The port has a large trade with the neighbouring ports of Great Britain.

**Londonderry** (39,800), on the Foyle, above its entrance to Lough Foyle, is a port and manufacturing town. Its old walls are still standing.

## II. Leinster.

| Counties. | County Town. |
|---|---|
| Louth, | Dundalk. |
| Meath, | Trim |
| Dublin, | Dublin. |
| Wicklow, | Wicklow. |
| Wexford, | Wexford. |
| Kilkenny. | Kilkenny. |
| Carlow, | Carlow. |
| Kildare, | Naas. |
| Queen's County, | Maryborough. |
| King's County, | Tullamore. |
| West Meath, | Mullingar. |
| Longford, | Longford |

Leinster occupies east, south-east, and part of central Ireland. Wicklow, being almost entirely occupied by the **Wicklow Mountains**, is the least densely populated county in Ireland.

TOWNS—

**Dublin** (289,100), the capital of Ireland, and the residence of the Lord Lieutenant, is situated on the Liffey at its entrance to Dublin Bay. It is the centre of the railway communications of the country, and has regular steamer services to Holyhead, distant 60 miles

Whiskey and stout are the principal manufactures

Dublin is the seat of two Universities and an Archbishopric.

## III. Munster.

| Counties | County Town |
|---|---|
| Waterford, | Waterford. |
| Cork, | Cork |
| Kerry, | Tralee. |
| Limerick, | Limerick. |
| Clare, | Ennis. |
| Tipperary, | Clonmel. |

This province occupies south and south-west Ireland. The south coast has inlets forming excellent natural harbours, and the south-west coast is deeply indented by fiords, such as **Bantry Bay** and others. **Cork** is the largest county in Ireland, and Yorkshire is the only English county that is larger.

The climate of Munster is milder than in any other part of the British Isles, and the province is noted for its **dairy produce.**

TOWNS—

**Cork** (75,900) stands on the River Lee near its entrance to Cork Harbour. It is a port and manufacturing town. The harbour is large enough to hold the British Navy, and on its shores is **Queenstown**, where the American mail steamers call for and drop their mails.

**Limerick** (38,000), on the Shannon just above its estuary, is a small port with a flour and bacon trade.

**Waterford** (27,900), on the Suir, exports live stock and other farm produce.

## IV Connaught.

| Counties | County Town. |
|---|---|
| Galway, | Galway. |
| Mayo, | Castlebar. |
| Sligo, | Sligo. |
| Leitrim, | Carrick-on-Shannon. |
| Roscommon, | Roscommon. |

**Connaught** occupies the middle portion of western Ireland. The coast is deeply indented, very bold and rocky, and fringed with numerous islands. The only inland county is Roscommon. It is the least fertile and the least populous province, much of the surface being occupied by mountains, bog, and lake.

TOWNS—

**Galway** (16,200), at the mouth of the river flowing from Lough Corrib into Galway Bay, is a fishing port, and exports agricultural produce and black marble.

**Sligo** (10,800), the principal port of north-west Ireland, at the head of Sligo Bay, is a fishing centre. It exports cattle and agricultural produce.

### QUESTIONS.

1. Name, from the map, the principal indentations of the Irish coast, and also the most marked projections. What points come nearest England and Scotland? What bays open directly on the Atlantic?

2. What rivers flow (1) to the Atlantic, (2) to the Irish Sea. Describe the course of the Shannon.

3. How do the loughs of Ireland differ, as a rule, from the Scotch lochs and the English lakes?

4. How does the climate of Ireland compare with that of England?

5. Describe the four provinces of Ireland

6. Where are the following towns, and for what are they notable: Londonderry, Galway, Cork, Limerick, Dublin, Belfast.

7. Make, from the map, a list of the maritime counties of Ireland, giving the ports and harbours on the coast of each, and the rivers, if any, on which they stand.

# *THE SCANDINAVIAN COUNTRIES.*

## NORWAY AND SWEDEN.

### I. Introductory.

NORWAY and Sweden occupy the Scandinavian Peninsula, which is connected with the mainland of Europe by an isthmus about 300 miles across. Norway occupies the western portion of the peninsula, and Sweden the eastern.

Scandinavia is often taken to include the three countries of Norway, Sweden, and Denmark.

### II. Situation and Size.

The Scandinavian Peninsula is the extreme north-western portion of Europe. It extends through more degrees of latitude than any other division of Europe, Russia excepted.

The south of Sweden is in the latitude of northern England; in the north the peninsula extends well within the Arctic Circle; and North Cape, on Magero Island, is the most northerly point in Europe.

The total area of the peninsula is 297,321 square miles, so that, in point of size, Norway and Sweden together rank second among the countries of Europe. Sweden is about one-third larger than Norway.

The **length** of the peninsula, from North Cape to the south of Sweden, is nearly 1200 miles. The **breadth** varies from 230 to 470 miles.

### III. Boundaries.

On the North: the Arctic Ocean.

On the West: the Arctic Ocean and the Atlantic Ocean.

On the South: the Skager-Rak, the Kattegat, and the southern end of the Baltic Sea.

On the East: the Baltic Sea, the Gulf of Bothnia, and Russian Lapland.

### IV. Coasts.

The whole coast is broken to a remarkable degree, and is fringed in most places by numerous islands.

The **western** coast is high and precipitous, and is indented by the long, deep-water inlets called fiords, some of which run nearly 100 miles inland.

**Cape Lindesnäs**, or the **Naze**, the southermost point of Norway, marks the end of this coast.

The chief feature of the **southern** coast is the wide indentation which terminates in **Christiania Fiord**, and is washed on the Norway shore by the **Skager-Rak**, and on the Swedish shore by the **Kattegat**.

The **Sound**, a strait three miles wide, separates the extreme south-west of Sweden from Denmark.

The southern and eastern coasts are comparatively low-lying.

ISLANDS—

Most of the islands are small. **Öland** and **Gotland** are large islands in the Baltic, off the coast of Sweden. The **Lofoten** Islands are a large group off the northern part of the west coast. Between two of them the famous whirlpool, the Maelstrom, is formed by the currents.

## V. Relief.

The Scandinavian Peninsula is, for the most part, a plateau, highest near the west coast. The boundary between Norway and Sweden follows the main waterparting down the greater part of the peninsula. The general slope of Sweden is, therefore, towards the Baltic Sea.

The greatest extent of land below 600 feet is in the south of Sweden, in the peninsula which separates the Skager-Rak and Kattegat from the Baltic.

MOUNTAINS—

The plateau reaches its greatest height in the **Jotunfjeld** (8400 feet), in south-west Norway. Nearly the whole of Norway is a wild and rugged highland.

Snowfields and glaciers are numerous in the mountains of the south-west and north.

## VI. Rivers and Lakes.

RIVERS—

The main slope of the country being towards the Baltic, the rivers that flow across Sweden are longer than the rivers that flow across Norway to the west coast. Most of the rivers are rapid, and broken by numerous waterfalls.

LAKES—

The lowland country in the south of Sweden is one of the great lake districts of Europe.

**Wener**, the third largest lake in Europe, about the size of the English county of Norfolk, **Wetter**, **Mälar**, and **Hjelmar** are the four largest.

## VII. Climate.

Owing to the great extent of latitude covered by the Scandinavian Peninsula there are great differences of climate. Within the Arctic Circle the winters are mostly night, and the summers are mostly day. Even in the south of the peninsula the winter days are very short. The capitals of both Norway and Sweden have a shortest day of less than six hours. In winter most of the country is covered with snow.

> There is a great difference of climate, however, between the west and the east. The western coast is under the influence of the Gulf Stream. Consequently it has abundant rain, and its harbours are never frozen. Western Norway has a moist and mild climate. Sweden has a much drier and more extreme climate. The harbours on the Baltic are often blocked with ice for six months in the year.

## VIII. Plants and Animals.

More than a quarter of the whole peninsula is covered with forest. **Pine** and **fir** are the commonest trees.

The chief crops are **oats**, **rye**, **barley**, and **potatoes**. Wheat does not do well so far north.

ANIMALS—

> The **bear**, **wolf**, **elk**, **reindeer**, **fox**, and **hare** are found. **Sea-fowl**, **birds of prey**, and **game birds** are numerous.

## IX. People.

POPULATION—

The population is about 7¼ millions: 5 millions in Sweden, or 29 to the square mile, and 2¼ millions in Norway, or 17 to the square mile.

> The country is too unproductive to support a large population. Norway does not grow enough corn for its own needs.

RACES AND LANGUAGES—

> Most of the people belong to the **Scandinavian** family of the Teutonic race. Some **Lapps** and **Finns**, who speak a non-Aryan language, are found in the far north.
>
> **Norse**, the language of Norway, is a dialect of Danish. **Swedish** is descended from the ancient language of Scandinavia.

RELIGION—

> The prevailing religion is Protestant Christianity of the **Lutheran** type.

## X. Products and Industries

MINERALS—

**Iron, copper, zinc,** and **silver,** are found in Sweden ; **copper, silver, gold** in Norway.

Swedish **iron** is very valuable on account of its purity. Unfortunately the country has little coal.

VEGETABLE PRODUCTS—

The forests of Sweden and Norway are a great source of wealth, and the timber is of excellent quality.

INDUSTRIES—

The people are mainly agriculturists, but Sweden has flourishing industries, chiefly connected with **iron, timber, sugar,** and **cotton.** Swedish **matches** are common in India

In the absence of coal the water power of the numerous rivers is much utilised.

Norway has valuable **cod** and **herring** fisheries.

## XI. Means of Communication.

In Sweden the means of communication are very good. The great lakes and other waterways are much used, and in the lowlands of the south the railway system is very complete.

In Norway steamers ply along the coast and up the fiords, and railways connect the capital with Sweden, and with different parts of the west coast.

## XII. Trade and Commerce.

The chief **exports** are **timber, live animals** and **animal food,** and **metals.**

Most of the exports, especially **timber, butter** and **metals,** go to the United Kingdom.

The **imports,** principally **textiles, coal,** and other minerals, **metal goods** and **machinery, groceries, corn,** and **flour,** come mostly from Germany and the United Kingdom.

Norway produces many fishermen and sailors, and her merchant fleet, though now smaller than that of Germany, was, until lately, second only to the British.

## XIII. Government.

Norway and Sweden have been united under the rule of one monarch since 1814, but there is no real unity of sentiment, and the two countries are practically independent.

The **king** resides in **Stockholm**, which is the seat of the Swedish Government, and the meeting place of its Parliament.

Norway has its separate government at **Christiania.**

The two countries have separate **armies** and **navies.** The armies are small, but well disciplined. The navies are only intended for coast defence.

**Education** is general, and of good standard. Nearly every one can read and write.

There is a considerable annual **emigration**, chiefly to the United States of America.

## XIV. Political Sub-divisions and Towns.

Sweden has three divisions. **Gotland** in the south, **Svealand** in the centre, and **Norrland** in the north.

*Svealand.* **Stockholm** (302,000), the capital, is a handsome town, situated between Lake Malar and the Baltic. It is the principal manufacturing town, and the leading port for exports. To the north is **Upsala**, an ancient university town.

*Gotland.* **Göteborg** (127,000), on the Skager-Rak, is the principal port for exports

**Malmö** (59,500) is a flourishing town on the Sound.

NORWAY. **Christiania** (226,000), the capital, is situated on a splendid harbour at the head of Christiania Fiord, and is the principal commercial town of Norway.

**Bergen** (72,000), on the west coast, is the chief fishing port in northern Europe.

**Trondhjem** (29,000), on the great fiord of that name, is the third port of Norway, and has a splendid old cathedral in which the kings of Norway are crowned.

**Hammerfest**, a wood-built fishing town near the North Cape, is the most northerly town in Europe. For two months in summer the sun never sinks below the horizon.

### QUESTIONS.

1. Between what lines of latitude and longitude does the Scandinavian Peninsula lie? Through what countries does the meridian passing nearest the west coast of Norway, and the meridian passing nearest the North Cape run?

2. Describe the course of the boundary between Norway and Sweden. What countries do the Skager-Rak, the Kattegat, and the Gulf of Bothnia separate?

3. Pick out, from the map, the largest of the Norway fiords. Near which of them does the Scandinavian Peninsula reach its highest elevation.

4. Give the main physical features of Sweden. Where are the great lakes, and how do they discharge their surplus water?

5. Explain the difference of climate between Norway and Sweden.
6. What is the most valuable product of Scandinavia? Why has Norway to import corn?
7. Describe the exact situation of Stockholm, Christiania, Bergen, Göteborg, and say in what the importance of each consists.

# DENMARK.

## I Situation and Size.

Denmark consists of **Jutland**, the northward pointing peninsula which projects from the low northern coast of middle Europe, the numerous islands south of the Kattegat blocking the entrance to the Baltic Sea, of which the largest are **Seeland** and **Funen**, and the rocky island of **Bornholm** in the Baltic.

The isthmus connecting Jutland with the mainland forms part of Germany.

Denmark is in practically the same latitude as Scotland south of the Moray Firth. In the north-east, Jutland tapers to a point nearly opposite Goteborg in Sweden.

Denmark is the smallest of the Scandinavian countries Its area is 15,289 square miles, somewhat less than half the area of Ireland.

## II. Boundaries.

North : the Skager-Rak.
East : the Kattegat and the Sound.
South : the Baltic Sea and Germany.
West : the North Sea.

## III. Coasts.

The seas round Denmark are shallow, and the coast is low and sandy.

The **East** coast of Jutland is the higher and more indented.

The **Sound** separates Seeland from Sweden. The **Great Belt** separates Seeland from Funen, the second largest island. The **Little Belt**, the narrowest of the three straits connecting the **Kattegat** with the Baltic, separates Funen from Jutland and Germany.

**Laaland** is another large island lying south of Seeland and the Great Belt.

## IV. Relief.

Denmark forms part of the great plain of northern Europe, and nowhere exceeds 600 feet in elevation. The country is most diversified in the south-east and in the islands.

## V. Rivers and Lakes

Streams are numerous, but the country is too small to allow of large rivers.

There are lagoons on the west coast. **Limm Fiord**, in the north, is practically a salt-water lake, communicating at both ends with the sea and making the north of Jutland a separate island.

## VI. Climate.

The climate is less extreme than that of the adjacent mainland of Europe, but is more extreme than that of eastern Scotland.

The straits leading to the Baltic are rarely quite frozen.

## VII. Plants and Animals

Most of north-western Jutland is heather-clad **moorland.**

The commonest tree is the **beech**, of which there are large woods.

Only the smaller wild animals still remain.

## VIII. People.

POPULATION—

The population is a little over two millions, or 143 to the square mile.

The islands are more thickly populated than Jutland.

RACE AND RELIGION—

The Danes are **Scandinavian Teutons**, and are closely akin to the English of the eastern counties. They are **Lutheran Protestants** by religion. In character they are slow and persevering, but somewhat prone to melancholy.

## IX. Products and Industries.

No minerals are found.

The people are mostly **agriculturists**, and grow crops of **oats, barley,** and **rye.**

There are few manufactures, and the principal industry is buttermaking.

## X. Communications.

The country is well supplied with railways. Steam ferries connect the railways of Seeland and Funen with one another, and with the railways in Sweden and Jutland, thus giving through communication between the Scandinavian peninsula and the mainland of Europe.

## XI. Trade and Commerce.

**Butter** is the principal export. The chief **imports** are **textile manufactures, cereals, metals,** and **coal.**

The exports go mostly to the United Kingdom. Germany sends most of the imports.

The British merchant service employs many Danes

## XII. Government.

The government is a **limited monarchy,** with two houses of parliament, both elected by the people.

**Education** is general.

There is some **emigration** to the United States.

## XIII. Towns.

**Copenhagen** (408,000), the capital, is situated on the Sound, in the east of Seeland. It has a good harbour, and is the port of the country.

**Elsinore** is a fortified port at the narrowest part of the Sound.

**Aarhus** (33,000), the largest town of Jutland, is a busy port on the east coast.

**Odense** (30,000) is the largest town in Funen.

## XIV. Foreign Possessions.

**Iceland,** the second island of Europe, is a dependency of Denmark, ruled by a Governor-General. It is situated just clear of the Arctic Circle, and though the climate is mild for the latitude, most of the island is uninhabitable. Volcanoes, of which **Hekla,** in the south, is the best known, and **geysers** are numerous. Corn will not ripen, and the people subsist by breeding **cattle.** They trade with the United Kingdom and Denmark, exporting **fish, cattle, wool,** and **eider-down** from the eider-duck.

The only town is **Reykjavik,** the capital.

The **Faroe Islands,** about half-way between the Shetlands and Iceland, belong to Denmark, and also three small islands in the West Indies.

### QUESTIONS.

**1. What portions of land constitute the country of Denmark? How does it compare in size with some of the divisions of India?**

**2. What straits separate the islands of Denmark from one another and from the adjacent countries?**

**3. Describe the principal surface features of Denmark.**

4. What are the principal occupations of the people?
5. Describe the route from Stockholm to Hamburg *via* Copenhagen.
6. What do you know of Copenhagen, Elsinore, Aarhus, and Odense?
7. Give some account of Iceland.

## *THE LOW COUNTRIES.*

## THE NETHERLANDS.

### I. Situation and Size.

THE Netherlands, sometimes also called **Holland**, from the name of its chief province, occupies the low-lying coastlands of north-west middle Europe.

> It lies between the same parallels of latitude as the eastern counties of England between the Humber and the Thames, on the opposite side of the North Sea.
>
> The encroachments of the sea, as also reclamations from the sea, have caused the **area** of the country to vary from time to time At present it is about 12,700 square miles, or about the same as that of eastern England between Yorkshire and the Thames.

### II. Boundaries.

North and West. the North Sea.
East: Germany.
South: Belgium.

### III. Coasts

The coast, everywhere low, is lined by sandbanks, sand dunes, and by embankments to keep out the sea In the north a line of islands running along the coast, and across the entrance to the deep inlet of the **Zuider Zee**, marks the ancient coastline.

> The Zuider Zee is the result of successive encroachments of the sea, and only took its present form in the 14th century.
>
> The river deltas of the south-west terminate seaward in a number of large islands.

### IV. Relief.

The country is very flat and low, and but for protective embankments more than one-third would be covered by the sea.

> Most of the western parts are below sea-level, and the surface never rises above 35 feet except in the east and in the extreme south-east, where there are low hills.

The parts below sea-level are divided by dykes or bunds into sections called *polders*, and the numerous windmills used to pump the water from the polders into the drainage canals are a striking feature of the landscape.

## V. Rivers.

South of the Zuider Zee the country belongs to the common delta of the **Rhine** and the **Meuse**, and is traversed by their various distributaries, of which the **Waal** and the **Lek** are the most important for navigation. In the south-west is the delta of the **Scheldt.**

## VI. Climate.

The climate is moderate, and resembles that of the eastern counties of England. The damp, low-lying western districts are, however, somewhat unhealthy.

## VII. People.

POPULATION—

The population is about 5,104,000, or 403 to the square mile.

RACES AND LANGUAGES—

The people belong to several branches of the **Teutonic** race, and differ in dress, speech, and other ways.

The common written language is **Dutch**, but various dialects are spoken, of which the most important is **Frisian.**

RELIGION—

Protestant Christianity of the **Presbyterian** type is the prevailing religion, but all are tolerated.

The Dutch are a thrifty and industrious people, and are noted for the trimness and cleanness of their houses.

## VIII. Products and Industries.

The Dutch are very skilful farmers. They grow large crops of **rye, potatoes,** and various **grasses,** and breed **cattle** in great numbers They are also great **flower** gardeners.

There are no mineral products.

**Industries** have developed much of late years. **Textile** industries, **shipbuilding**, the making of **paper, leather, sugar, spirits, cheese,** and **butter** are the most important.

The North Sea and Zuider Zee **fisheries** are valuable.

## IX. Communications.

The numerous canals and rivers are much used as waterways. There are several ship canals, of which the most important are those connecting Amsterdam and Rotterdam with the North Sea. There is also an excellent system of railways and steam tramways.

## X. Trade and Commerce.

The Netherlands is practically a free-trading country, and the Dutch have always been a commercial people.

Trade is mainly carried on with Germany, the United Kingdom, Belgium, Java, and Russia. There is a large import and re-export of **colonial produce**, especially **drugs** and **spices**

Prominent **exports** are **margarine** (artificial butter), **butter, cheese, sugar,** and **meat.**

**Imports** are **cereals, iron** and **steel, textiles, wood,** and **coal.**

## XI. Government.

The government is a **limited monarchy.** Until 1830 the Netherlands was united with Belgium.

The **army** is small, and the **navy** is only intended for home defence. There is a special force and a special squadron of war-ships for the East Indies

**Education** is partly free and partly compulsory. There are excellent schools and universities.

## XII. Towns

**The Hague** (206,000), situated near the sea in the middle of the west coast, is the capital.

**Amsterdam** (524,000), on the Zuider Zee, the largest town, and the great commercial centre, is famous for its money market and for its diamond cutting.

**Rotterdam** (320,000), on the Meuse, is a great seaport and one of the busiest commercial centres in Europe.

**Utrecht** is a manufacturing and University town; **Haarlem** is the centre of the flower bulb industry; and **Leiden** has a very ancient university.

**Flushing**, at the mouth of the Scheldt, is the mail port for England.

## XIII Foreign Possessions.

The foreign possessions of the Dutch are important.

**Java,** in the Dutch East Indies, is the most valuable, and, altogether, about ¾ million square miles in the **Malay Archipelago** belong to the Netherlands. The Dutch also possess part of **Guiana (Surinam),** in the north of South America, and several islands in the West Indies.

### QUESTIONS.

1. Name the English counties that lie opposite to the Netherlands.
2. How far does the existence of the Netherlands depend upon embankments? What are polders?
3. Find out from the map the names of the chief distributaries into which the Rhine breaks up immediately upon entering Holland.
4. Give some account of the Dutch, with special reference to character and occupations.
5. How is the trade of the Netherlands affected by its foreign possessions?
6. What do you know of The Hague, Amsterdam, Rotterdam, Haarlem, Leiden, and Flushing?

## BELGIUM.

### I. Situation, Size, Coast.

Belgium is the southern division of the "Low Countries," and its western provinces formed part of ancient **Flanders**.

In latitude it lies between the parallels of London and the Channel Islands.

It is about the size of Yorkshire, its **area** being 11,373 square miles.

The **coast**, which is unindented, and only 40 miles long, is separated from the interior by a line of dunes. Inland the country widens out to over 100 miles in breadth, from north to south.

### II. Boundaries.

**North**: the Netherlands.
**East**: the Netherlands. Germany, and Luxemburg.
**South-west**: France.
**North-west**: the North Sea.

### III. Relief.

Belgium is not so flat as the Netherlands. The surface rises gradually towards the south-east, and, to the south of the Meuse and its tributary the Sambre, it rises in the wooded plateau of the **Ardennes**, in the south-east corner of the country, to over 2000 feet.

### IV. Rivers.

Western Belgium belongs to the basin of the **Scheldt,** which enters the country from France, and flows north-east, past Ghent, to Antwerp. Below Antwerp it enters its delta in the Netherlands. The **Meuse** also enters Belgium from France, flows through the picturesque Ardennes to Liege, below which it forms the boundary between Belgium and the Netherlands.

## V. Climate.

The climate is cool and temperate, resembling that of the southern counties of England, but is somewhat more extreme.

## VI. People.

POPULATION—

Belgium is the most crowded country in Europe. It has a population of over 6¾ millions, or 593 to the square mile—a population density equal to that of the manufacturing districts of Yorkshire

RACES AND LANGUAGES—

The people are partly of **Romanic**, and partly of **Teutonic** race. The former speak **Walloon**, a dialect of French; the latter **Flemish**, the language of Flanders, akin to Dutch.

RELIGION—

The prevailing religion is **Roman Catholic**.

The Belgians are an intelligent and progressive people, and have made full use of their agricultural and mineral resources. In this respect they closely resemble the English.

## VII. Products and Industries.

Most of the people are engaged in **agriculture**, and cultivate small farms. The chief crops are **wheat, oats, rye, potatoes, flax**, and **hemp**.

The **horses** of Flanders are famous for their size and strength.

**Coal, iron**, and **zinc** are obtained in large quantities in the valleys of the Sambre and the Meuse.

The mineral wealth of Belgium has given rise to numerous industries, of which the manufacture of **iron** and **steel, machinery, fire-arms, glass, woollen** and **cotton** goods, and **lace** are the most important.

## VIII. Communications.

In proportion to its size Belgium has the most complete railway system in Europe. It has direct communication with the neighbouring countries and the rest of the continent, and there are daily steamer services between Antwerp, Ostend, and England.

## IX. Trade and Commerce.

The principal trade is with the neighbouring countries of France, the United Kingdom, Germany, and the Netherlands.

**Imports** are **cereals, raw textiles, timber, chemicals**, and **drugs**.

Like the United Kingdom Belgium is essentially a manufacturing country, and does not produce sufficient grain for its own needs; hence the large import of cereals.

**Exports** are **linen** and **woollen yarns, coal, machinery, iron** and **steel, flax,** and **glass.**

## X. Government.

The government is a **limited monarchy.**

Service in the **army** is compulsory, but there is no navy.

Elementary **education** is free, but not compulsory. Hence many of the people are illiterate. Higher education is well provided for.

## XI Towns.

**Brussels** (571,000), the capital, situated near the centre of the kingdom, is a fine city, with many ancient and beautiful buildings. Ten miles south of Brussels is the famous battlefield of **Waterloo.**

**Antwerp** (282,000), on the Scheldt, 60 miles from the sea, is one of the great commercial ports of Europe. Sugar-refining, shipbuilding, and lace-making are the chief industries.

**Liege** (171,000), on the Meuse, is the principal industrial town on the Belgian coalfield. Fire-arms are made in enormous quantities.

**Ghent** (163,000), at the confluence of the Lys and the Scheldt, manufactures cotton and linen goods.

## XII. Foreign Possessions.

The **Congo Free State,** in Central Africa, having an area of 900,000 square miles, is administered by Belgium.

### QUESTIONS.

1. Describe exactly the situation of Belgium in regard to Great Britain.
2. What are the surface features of Belgium? Where are the coalfields?
3. Give a reason for the dense population of Belgium. What are the principal occupations of the people?
4. For what are Brussels, Antwerp, Liege, Ghent, and Ostend noteworthy?

## LUXEMBURG.

Luxemburg is a small state to the south-east of Belgium, with Germany on the east and south, ruled by a Grand Duke. It is neutral territory, its independence being guaranteed by the Great Powers. It is about the size of the county of Durham, and, though chiefly agricultural, has rich **iron mines,** and various **manufactures.** The capital is **Luxemburg** (20,000).

# FRANCE.

## I Situation and Size.

France is the connecting link between the Iberian Peninsula and the countries of Central Europe. Most of the country lies between lats. 43° and 51° N.

The position in latitude of France corresponds most nearly with that of Austria-Hungary. Only the small portion which is above lat 50° is as far north as the south of England.

In **size** France comes fifth among the countries of Europe, its area being 204,092 square miles

Its greatest **length** is nearly 700 miles, and its greatest **breadth** a little under 600 miles

## II. Boundaries.

North : the English Channel and Belgium.
East . Germany, Switzerland, and Italy.
South . the Mediterranean Sea and Spain.
West : the Bay of Biscay.

## III. Coasts.

The **north coast** is indented by the estuary of the **Seine** in Normandy , and the **Cotentin Peninsula,** which terminates in **Cape de la Hague,** projects into the English Channel. Between Cotentin and Brittany is a deep opening, which runs up to the **Bay of Mont St. Michel.**

The broken and rocky coast of Brittany terminates in **Point de St. Mathieu,** off which lies the island of **Ushant,** well known to mariners making for the English Channel.

The whole of the **west coast** forms the eastern shore of the **Bay of Biscay.** It is broken by the estuaries of the **Loire** and the **Gironde.** South of the Gironde the coast is straight, and bordered by sand-dunes which separate it from the sandy tract in the interior called the **Landes.**

Several islands, all smaller than the Isle of Wight, lie off this coast.

The **Gulf of Lions** occupies most of the **south** or Mediterranean coast. Its shores are generally low and bordered by lagoons. East of Marseilles the coast is rocky and picturesque.

**Corsica,** the largest island of France, and about one-third the size of Ireland, lies south of the Gulf of Genoa It belongs geographically to Italy. The **Strait of Bonifacio** separates it from Sardinia

## IV. Relief.

A line drawn from the Ardennes on the Belgian frontier, to the sea on the borders of Spain in the south-west, divides France into two natural divisions.

West of this line the country belongs to the great European plain. With the exception of parts of Normandy and Brittany, the land is almost entirely below 600 feet in elevation.

East of this line is a highland region, intersected, however, by a depression running north from the Gulf of Lions, formed by the valley of the Rhone and that of its tributary the Saone.

The **Central Plateau** of France lies west of the Rhone valley. The extinct volcanoes of **Auvergne**, in the middle of the plateau, rise in Mont Dore to 6000 feet. The best known cone is the famous **Puy-de-Dome**, 4800 feet

The **Cevennes Mountains**, rising to 5600 feet, are the south-east edge of the Central Plateau.

The **Alps** shut in the Rhone valley on the east, the highest peaks being on or near the boundaries of France and Italy.

**Mont Blanc** (15,775 feet), the highest mountain in Europe, is a French mountain.

The **Jura Mountains** (5000 feet) begin north of the Rhone, shut in the Saone valley on the east, and run along the border between France and Switzerland to the Rhine.

The **Vosges** (4000 feet) run along the border between France and Germany, to the west of the valley of the middle Rhine.

The **Pyrenees** form a natural boundary, varying from 6000 to 10,000 feet in height, between France and Spain.

It will be noticed that most of the mountains of France are frontier ranges.

## V. Rivers.

The five chief rivers of France are the **Loire, Rhone, Seine, Garonne,** and **Dordogne.**

The shortest of these is longer than the Shannon, the longest river of the British Isles. The Seine is the most useful for navigation.

The **Loire** (540 miles) rises in the Cevennes, near the edge of the Rhone valley. It flows in a northerly direction through the middle of France for about half its course, and, then west past Orleans, to its estuary on the Bay of Biscay below Nantes.

The **Rhone** (504 miles) enters France a little below its outlet from the Lake of Geneva, flows round the southern end of the Jura, and then west to Lyons, where it receives the sluggish **Saone** from the north. Thence its course is almost due south to its delta in the Gulf of Lions. Its rapid flow is a serious hindrance to navigation.

The **Seine** (480 miles) rises in the highlands west of the Saone valley, takes a generally west course to Paris, where it receives the **Marne** from the north-west. Below Paris it has a very winding course, past Rouen, to the sea at Havre.

The **Garonne** (355 miles) rises on the Spanish side of the Pyrenees, flows to Toulouse, and then north-west to Bordeaux, below which it joins the Dordogne to form the estuary of the **Gironde**.

The **Dordogne** (260 miles) rises in the mountains of Auvergne in the Central Plateau.

## VI. Climate.

France is highly favoured in regard to climate. Being in lower latitude than England, the climate of the coastlands, especially the Mediterranean coast, is much more genial. As we go eastward towards the interior of the continent the extremes of summer heat and of winter cold are much greater.

The mean annual **rainfall** is 29½ inches, as against 34 in the United Kingdom; and the air is generally clearer and drier.

## VII. Plants and Animals.

Owing to the small amount of forest wild animals are few in number. The variety of plant life, owing to the differences of climate, is great.

The south-eastern corner, which was the old Roman province, and is still called **Provence**, is the garden of France. The **olive, mulberry, orange, eucalyptus**, and other sub-tropical trees thrive there, as well as the ordinary vegetation of the north temperate zone

## VIII. People.

POPULATION—

The population of France in 1896 was 38½ millions, or 188 to the square mile

Whilst the population of the United Kingdom has increased by more than twelve millions in the last half century, that of France has only increased by about three millions, and is now less than that of the United Kingdom.

RACES—

Like the English and the Germans, the French are of mixed race, but the **Keltic** element, derived from the ancient **Gauls**, predominates.

LANGUAGE—

The Gauls, when conquered by the Romans adopted the language of their conquerors, and modern French is derived from old provincial Latin.

Keltic dialects are still, to some extent, spoken in Brittany

The French are a lively people, with generous instincts, and agreeable manners. They have great powers of work, and are very methodical.

## IX. Products and Industries.

AGRICULTURAL PRODUCTS—

Half of France is arable land, and peasant proprietors, who cultivate their small holdings with the greatest industry, are very numerous.

**Wheat** is the principal crop, and France is the greatest wheat-growing country in Europe. **Maize, barley, hops,** and **beetroot** are also grown.

The **vine** is a most important object of cultivation, chiefly in the basins of the Saone, Rhone, and Gironde

The **mulberry** is largely grown in the valley of the Rhone, and **olives** and **oranges** on the Mediterranean seaboard.

**Butter** and **cheese** are much made in Normandy and Brittany.

MINERALS—

France is not rich in minerals, and is unfortunate in having a poor, though widely distributed, **coal** supply.

**Iron ore** is found in fair quantity, and the country is particularly rich in **building stones.**

INDUSTRIES—

**Textile manufactures** flourish near coalfields, and near the sources of supply of the raw material.

Thus the **woollen industry** flourishes in northern France, where sheep are most plentiful ; **silk weaving** in the Rhone valley, where the mulberry thrives ; the **cotton manufacture** in Normandy, which is favourably situated for the import of American cotton. The great centre of the **iron and steel industry** is Le Creusot, on the Burgundy coalfield, where **machinery, steam engines, guns,** and **railway material** are made

The centres of the **wine industry** are Dijon for **Burgundy,** Reims for **Champagne,** and Bordeaux for **Claret.**

## X. Communications.

The natural waterways of the country are most conveniently disposed, and have been much improved by artificial means, and supplemented by canals. By deepening the Seine, Paris has become the first port of France.

The high roads are excellent, and as France has taken the lead in making use of motor cars, road traffic is again increasing.

A network of railways radiating from Paris covers the country.

The railway system is connected with those of the neighbouring countries, and the Mount Cenis tunnel under the Alps directly connects France with Italy.

## XI. Trade and Commerce.

The trading fleet of France is decreasing.

One reason for this is that ships bringing imports have a difficulty in obtaining return cargoes, for France imports more than she exports, and has not got England's transhipment trade Most of the trade is done with the United Kingdom and Belgium.

The chief **imports** are **raw materials,** such as **wool, silk, cotton, cereals, wood, coal, coffee, oil seeds, hides,** and **furs.** The leading **exports** are **silk, woollen,** and **cotton goods, wine,** and numerous **small articles** of high quality and price for which the French are celebrated There is also a considerable export of **dairy produce** to the United Kingdom.

## XII. Government.

Since 1871 France has been a republic. The President and his Ministers are the central executive authority, which is represented in each of the 87 departments into which France is divided by a **Prefect.** The Senate and the Chamber of Deputies exercise legislative powers.

ARMY AND NAVY -

The **army,** recruited by universal conscription, is one of the largest in Europe, and the **navy** is second only to that of England.

EDUCATION.—

**Education** is under state control, and is entirely secular. Primary education is compulsory up to the age of thirteen. Higher education is efficient and well organised.

The French do not make good colonisers, and there is little **emigration**

## XIII. Towns.

**Paris** (2,536,000), the splendid capital of France, is situated on the Seine 107 miles from its mouth, and just below its confluence with the Marne. It is the centre of the intellectual and political life of France, as well as being a great trading and manufacturing town. **Versailles,** with the magnificent palace and park of St. Louis XIV., is ten miles to the south-west.

**Lyons** (466,000), at the junction of the Saone and Rhone, is the centre of the silk trade.

**Marseilles** (442,000), on the east of the Gulf of Lions, is the first port of France, and has been an important emporium of commerce from early Greek times. Its principal trade is with the east.

**Bordeaux** (257,000), on the Garonne, with its outport **Pauillac** on the Gironde, is the centre of the claret trade.

**Lille** (216,000), a strongly fortified town on the Belgian frontier, is also a great industrial centre. Flax and hemp yarn is the chief manufacture.

**Toulouse** (150,000), on the middle Garonne, does a large trade with Spain.

**St. Etienne** (136,000), near Lyons, has coal mines, and makes fire-arms and ribbons.

**Roubaix** (125,000), near Lille, makes cloth, shawls, and velvet.

**Nantes** (124,000), in Brittany, near the mouth of the Loire, is a seaport and manufacturing town.

**Le Havre** (119,000), at the mouth of the Seine, is the second port of France, importing coffee from Brazil and wheat from the United States.

**Rouen** (113,000), on the Seine in Normandy, is a busy port and cotton manufacturing town. It has one of the most splendid Gothic cathedrals in the world.

**Reims** (108,000), north-east of Paris. is the centre of a wine trade, and a manufacturing town.

No other towns have 100,000 inhabitants, but **Nice** and **Cannes**, invalid resorts on the Mediterranean ; the Channel ports of **Calais**, **Boulogne**, and **Dunkirk** ; the naval ports of **Cherburg**, **Brest**, and **Toulon** ; **Tours** and **Orleans**, on the Loire ; **Dijon**, the capital of the old province of Burgundy, and an important railway junction, are noteworthy , as are also **Valenciennes** and **Alençon** for lace, **Grenoble** for gloves, **Limoges** and **Sèvres** for porcelain, **Besançon** for watches, and **Nancy** for cotton and woollen goods.

## XIV. Foreign Possessions.

The foreign possessions of France amount to about 4 million square miles. Most of this territory, comprising **Algeria**, **Tunis**, the **Sahara**, and **French West Africa**, is in west and north-west Africa. The large island of **Madagascar**, off the east coast of Africa, is also French. France also possesses the eastern portion of the **Indo-China Peninsula**, **French Guiana** or **Cayenne** in South America, several islands in the West Indies, and several archipelagoes in Australia.

### QUESTIONS.

1. Describe exactly the situation of France. What part of the New World is in the same latitude ?

**2.** Name the chief bays and projections on the coast of France.

**3.** What are the two natural divisions of France? Name the mountain ranges that shut the country in. Describe the Central Plateau.

**4.** Describe the courses, and name the chief towns on the banks of the five largest rivers

**5.** In what respects is the climate of France more favourable than that of England? Name some characteristic vegetable products.

6. What fact is noteworthy about the population of France? What difference is there between French as the language of the French, and English as the language of the English?

7. Mention some characteristic French industries, and say in what parts of the country they are carried on.

8. Find, from the map, the railway routes from Paris to Strasburg, Geneva, and Turin. Name the chief towns passed on each route.

9. What are the principal exports of France?

10. How is France governed? What is the general character of the French people?

11. What do you know of Paris, Marseilles, Lille, Lyons, Calais, Dijon, Sèvres, Rouen?

12. Make a list of the foreign possessions of France, giving the geographical situation of each.

# *COUNTRIES OF CENTRAL EUROPE.*

## SWITZERLAND.

### I. Situation and Size.

**Switzerland** is an inland state of south central Europe, situated between 46° and 48° N. lat.

- It is in the same latitude as the middle of France and Austria-Hungary.
- Its **area** is 15,976 square miles, less than one-fifth that of Great Britain.
- From **east to west** its **length** is about 200 miles, and its **breadth** from north to south is about 120 miles

### II. Boundaries

**North**: Germany.
**East**: Austria.
**South**: Italy.
**West**: France.

## III. Relief.

Switzerland is the most mountainous country in Europe, and one-twentieth of its surface is covered with perpetual ice and snow. Most of it occupies the northern slopes of the Alps, but it extends south of the Alps in the basin of Lake Maggiore, where it reaches its lowest level, 650 feet. The lowest point in Switzerland north of the Alps is Basel, 912 feet, on the northern frontier. The country between these two points has three natural divisions: (1) **the Jura** mountain system, in the north-west, averaging 2500 feet in height, and rising to 5500 feet; (2) the **Swiss plateau**, between the Jura and the Alps, a highland region with numerous lakes, varying in elevation between 1000 and 3000 feet; and (3) **the Alps**.

The **Alps** occupy the south-west, south, and south-east of Switzerland The upper valleys of the Rhine and Rhone, which run north-east and south-west from Mount St. Gothard at the centre of the Alpine system, cut the Alps in two.

The **Pennine Alps** run along the borders of Italy south of the Rhone valley. They contain the famous peaks of the **Matterhorn** and **Monte Rosa**

The Alps of the **Bernese Oberland**, which overlook the Swiss Plateau, are the most important group north of the Rhone valley. The **Finsteraarhorn**, 14,000 feet, is the highest peak.

South-east of the Rhine valley, the **Rhaetian Alps** occupy south-eastern Switzerland, overlooking the **Engadine**, the valley of the upper Inn.

## IV. Rivers and Lakes

Nearly three quarters of Switzerland belongs to the basin of the **Rhine** The rest belongs to the basin of the **Rhone** in the south-west, to the basin of the **Po** in the south, and to the basin of the **Danube** in the south-east

The Rhine, the Reuss, the Rhone, and the Ticino all rise on the St Gothard.

The **Aar** flows through the picturesque lakes of **Brienz** and **Thun** to the Rhine. The **Reuss** flows to the Aar through Lake Lucerne. The **Limmat** flows to the Aar from the Lake of Zurich. Thus the Aar carries to the Rhine nearly the whole drainage of the Swiss Plateau.

The **Inn** is the most important Alpine tributary of the Danube.

The **Ticino** flows through Lake Maggiore to the Po.

The lakes of Switzerland, like all the Alpine lakes, are famous for their beauty. They occupy one-thirtieth of the total area of the country. The largest are **Geneva** or **Leman**, **Neuchâtel**, **Lucerne**, **Zürich**, and **Constance**.

## V. Climate.

Owing to the great differences of elevation Switzerland has great differences of climate. Even the plateau is colder than the neighbouring countries in the same latitude. But the climate varies with the aspect, and places on the northern slopes are colder than places on the southern slopes.

The climate of some of the northern Alpine valleys is modified by the **Fohn**, a hot dry wind which blows strongly down them during the summer months.

The rainfall, again, varies with the exposure. Westerly and southerly slopes get between 60 and 90 inches in the year. Places protected by mountains from the rainy winds get as little as 20 inches. The climate, on the whole, is healthy and bracing

## VI. Plants and Animals.

The **beech** is the commonest tree up to 4000 feet, and is succeeded by forests of **pine, fir,** and **larch** up to 6000 feet. Above this **grasses** and many beautiful **wild flowers** grow nearly up to the snow-line at 8500 feet

**Wild animals** are getting rare. A few **chamois** are left.

## VII People.

POPULATION

The population is about 3¼ millions, or 207 to the square mile In the Alps the population is very scanty, round the industrial centres it varies between 300 and 900 per square mile.

RACES, LANGUAGES, and RELIGIONS—

The Swiss are partly **Teutonic** and partly **Romanic.** Nearly three-quarters speak **German,** chiefly in the Rhine basin; rather more than one-fifth speak **French,** chiefly in the Rhone valley and on the French border; a small minority in the basin of the Ticino speak **Italian.**

In religion three-fifths are **Protestants,** and two-fifths **Roman Catholics.**

## VIII. Products and Industries.

Agriculture flourishes as far as the climate will allow, but little goes on above 2500 feet.

The chief crops on the plateau are **wheat, oats, rye, potatoes, fodder, vegetables,** and **fruit. The vine is cultivated in the west. Cattle, sheep,** and **goats** are bred largely, being driven up into the Alpine pastures for the summer.

The country is poor in minerals. Nevertheless Switzerland is a country of thriving industries; and the lack of coal is now being made up for by using the abundant water supply to generate electricity.

The chief **industries** are the manufactures of **cotton, cotton embroidery**, and **silk, straw-plaiting, watch-making**, and **machinery.**

## IX. Communications.

Great engineering difficulties stand in the way of making roads and railways, especially those connecting Switzerland with the outside world. Nevertheless railways cross the Jura in five places, and one transalpine line connects Switzerland with Italy by the **St. Gothard tunnel**, nine miles long, the longest tunnel in the world.

A still longer tunnel, to connect Switzerland with Italy by the **Simplon** route, is under construction.

The road and railway systems of the plateau are very complete, and both roads and railways penetrate many of the Alpine valleys.

The lakes are navigated, but the rivers are in most places too rapid. The Aar is the most useful.

## X. Trade.

Switzerland does an active trade with the surrounding countries. **Food supplies** have to be imported in large quantities, and **manufactures, cheese** (Gruyère), and **condensed milk** are exported to pay for them.

## XI. Government.

Switzerland is a **federal republic**, each division or canton being a separate state with its own constitution and government.

This is the result of the difficulty of communication between one part of the country and another. Geographical conditions isolated the cantons, and they have remained independent.

The interests of the country as a whole are in the hands of the federal government at **Bern.**

There is no standing **army**, but all men between 20 and 44 must belong to the militia, a force intended for defensive purposes only.

**Education** is general. There are six universities, and many special and technical institutions.

There is a considerable annual **emigration** to the United States.

## XII. Towns.

The bulk of the population, and the chief towns, are naturally found on the plateau.

**Zürich** (150,000), the capital of the canton of that name, is the largest town in Switzerland. It is situated on the Limmat, at the northern end of the Lake of Zurich. It is a great industrial centre, and manufactures silk and machinery.

**Basel** (113,000), the capital of the canton of that name, stands north of the Jura, on the Rhine near the point where it enters Germany. It manufactures silk ribbons, and is the chief railway centre of Switzerland.

**Geneva** (104,000) stands on the Rhone where it leaves the Lake of Geneva. It is famous as a religious and educational centre, and makes chronometers, scientific instruments, jewellery, and chemicals.

**Bern** (64,000), the federal capital, stands on the Aar near the middle of the Swiss plateau.

**Lausanne** (56,000) occupies a beautiful site on the north side of the Lake of Geneva.

**Neuchâtel** (21,000), on the lake of that name, is famous for its wine, and is the centre of a watch-making trade.

**Lucerne**, **St. Moritz** in the Engadine, **Zermatt**, **Interlaken**, are tourist resorts.

QUESTIONS.

1. Compare the position in latitude of Switzerland with that of England. What countries enclose Switzerland?

2. Describe the natural divisions of Switzerland. Name the principal groups of the Alps, and give their position.

3. Describe clearly the river system of Switzerland, and draw a sketch-map showing the courses of the principal rivers, and the situation of the larger lakes.

4. Why is the Swiss plateau colder than the neighbouring countries? What is the Fohn?

5. What is the nature of the vegetation? Name the chief agricultural products, and the chief industries.

6. Why has Switzerland to import food-stuffs? Mention the chief manufactured products exported.

7. How does the geography of Switzerland explain the nature of its government?

8. What do you know of Bern, Zermatt, Zurich, the Engadine, Geneva, Lausanne, Basel, the Matterhorn, the Reuss, the Simplon?

# GERMANY.

## I. Situation and Size.

The German Empire is a state of north central Europe, formed by the confederation under an Emperor of 25 independent states, and the imperial territory of Alsace-Lorraine.

Of these states the kingdom of **Prussia** is much the largest, and occupies the greater part of North Germany. The next in size are the kingdoms of **Bavaria** and **Würtemberg** and the grand-duchy of **Baden** in south Germany, and the kingdom of **Saxony**, east of the highlands of Middle Germany.

Germany lies between the parallels of 47° and 56° N, and between the meridians of 6° and 23° E. Most of it is in the same latitude as England, and lies further north than the bulk of France and Austria It extends from the shores of the North and Baltic Seas to the Alps.

The **area** of Germany is 208,830 square miles. It is the fourth in size of European states, being 5000 square miles larger than France.

Germany has a fairly compact territory. **North Germany** is a rough parallelogram, with its longest side, about 750 miles, on the Baltic Sea. **South Germany** is a smaller parallelogram joined on to the western half of the southern side of North Germany The greatest **breadth** from north to south is about 550 miles.

## II. Boundaries.

North: the North Sea, Denmark, the Baltic Sea.
East: Russia and Austria.
South. Austria and Switzerland
West. France, Luxemburg, Belgium, the Netherlands.

## III. Coast.

Germany has access to the sea only on the north, and is deficient in good harbours. The North Sea coast is very low. The Baltic coast is higher, and often bordered by sand dunes. In the east are large lagoons called **Haffs**. The principal openings on the Baltic coast are the **Bay of Danzig**, the **Pomeranian Bay**, the **Gulf of Lübeck**, and **Kiel Bay**. On the North Sea are estuaries of the **Elbe** and **Weser**, **Jade Gulf** and the estuary of the **Ems**. The last is also called the **Dollart**.

The islands are unimportant. The largest is **Rügen**, in the Baltic.

## IV. Relief.

There are four natural divisions of Germany. (1) the **North German plain**; (2) the **Central Highlands**, extending through South Germany to the Danube; (3) the **sub-Alpine plateau**; (4) the **Alps**.

(1) **The North German plain** is part of the great plain of Northern Europe. It is for the most part flat and low, often swampy or sandy, and rarely rises above 600 feet.

(2) **The Central Highlands** extend north of the Danube as far as lat. 52° N. They seldom exceed 5000 feet in height.

The valley of the **middle Rhine** in the south-west is shut in by the **Black Forest** (*Schwarzwald*) and other ranges on the east, and by the **Vosges** and the **Haardt** Mountains on the west.

The **Jura** Mountains are continued from Switzerland across South Germany, in a north-easterly and northerly direction, as the **Swabian** and **Franconian Jura.**

On the eastern border of South Germany the **Böhmerwald** Mountains separate Bavaria from Bohemia.

The **Erzgebirge** Mountains separate Saxony from Bohemia, and further east the **Riesengebirge** and **Sudetes** separate Silesia from Bohemia.

From the **Fichtelgebirge** at the angle between the Bohmerwald and the Erzgebirge, the **Thuringian** Mountains run north-west across middle Germany.

The **Harz** Mountains are in the north of the Central Highlands, and in the west, in the angle between the Moselle and the Rhine, is the ancient volcanic region of the **Eifel.**

(3) The **sub-Alpine plateau** is a continuation of the Swiss plateau, extending east of the Rhine as far as the Inn. It lies between the German Jura and the Alps. Munich on the one plateau, and Bern on the other plateau, are exactly the same height above the sea.

(4) The **Bavarian Alps** form the southern boundary of Bavaria. They are not the main chain of the Alps, but they rise above the snow-line, and contain **Zugspitze**, 9700 feet, the highest point in Germany.

## V. Rivers and Lakes.

The seven largest rivers of Germany are the **Memel, Vistula, Oder, Elbe, Weser, Rhine,** and **Danube.** Only the Weser is entirely German.

The **Rhine** enters South Germany from Switzerland near Basel, and flows past Strassburg, Mannheim, Mainz, Koblenz, Bonn, and Cologne to the Netherlands. Its chief tributary on the right bank is the **Main** (305 miles), which rises in the Fichtelgebirge, on the borders of Bohemia, and flows through the heart of the Central Highlands, past Wurzburg and Frankfurt, to the Rhine at Mainz. The **Neckar** (246 miles) rises in the Black Forest, and flows past Stuttgart and Heidelberg to the Rhine at Mannheim. Length, 810 miles.

The **Mosel** (320 miles) is the chief tributary of the Rhine on the left bank. It rises in the French Vosges, enters Germany a little above Metz, and joins the Rhine at Koblenz.

LAKES—

Lakes are found on the sub-Alpine plateau, and on the Northern plain. In north-eastern Germany they are very numerous. The haffs are connected with the sea, but the **Kurisches Haff** may be regarded as the largest lake in Germany.

## VI. Climate.

There is a great difference between the east and the west. Western Germany has a moist and mild climate, resembling that of southern England. The warmest parts of the country are the valleys of the Rhine, Mosel, Neckar, and Main. Eastern Germany, as also the sub-Alpine plateau in the south, has a dry and extreme climate, like that of southern Sweden. The Baltic ports are ice-bound in winter, and, east of the Oder, snow lies on the ground long after spring has begun in the basin of the Rhine.

The average rainfall of Germany, about 28 inches, is a little less than that of France. It is highest on the southern and south-western slopes of the mountains, and lowest in the north-east, where, in some places, it is less than 20 inches.

## VII. Plants and Animals.

Very little of Germany is waste land, and even the forests, which cover one-quarter of the country, are managed so as to yield the most profitable supply of timber. The **pine**, **fir**, **white birch**, and **beech** are the commonest trees.

The larger wild animals are extinct, but the **wild boar**, **stag**, and **roe** are still found in the forests.

## VIII. People

POPULATION—

As regards population, Germany, with 56¼ million inhabitants, comes second among the countries of Europe, and the population is increasing rapidly. The average density of population is 269 per square mile, but the industrial kingdom of Saxony, with 654 inhabitants to the square mile, is the most densely populated state in the world

RACE, LANGUAGE, AND RELIGION—

The people are mainly **Teutonic**, but, in the south, there is an admixture of the **Keltic** element, and, in the east, of the **Slavonic** element. There are about 2½ million **Poles** in eastern Prussia.

The language of the highlands, called **High German**, is the language of the educated classes. The people of the northern plains speak **Low German**, and there are differences in customs and ways of thought, and probably descent, as well as in language.

More than 60 per cent. of the population are **Protestants**, and about 35 per cent. **Roman Catholics**. The latter only form a majority in Alsace-Lorraine, Bavaria, and Baden.

The Germans are a remarkably persevering, thrifty, and domestic people. They have a great genius for organisation, and are very amenable to discipline.

## IX. Products and Industries.

AGRICULTURE—

The chief crops are **rye, oats,** and **potatoes. Beet root** is also much grown. In the milder south-west **wheat** and **barley** are grown, and the **vine, hops,** and **tobacco** are cultivated.

**Cattle** and **horses** are bred largely, and there are great numbers of **swine.**

MINERALS—

The highlands of Germany are rich in minerals, and the output of **coal** and **iron** is only less than that of the United Kingdom and the United States of America.

The principal mineral districts are in the **Lower Rhine highlands,** in the **Harz Mountains,** and in **Saxony** and **Silesia.**

The chief coalfields west of the Rhine are (1) a continuation of the Belgian coalfield near **Aix-la-Chapelle**; and (2) the **Saarbrücken coalfield,** south of the Mosel. East of the Rhine are (3) the **Ruhr valley coalfield,** on which is Essen, with Krupp's great steel works; (4) the **Saxony coalfield**; (5) the coalfields of **Silesia.** Iron is generally found with coal.

**Zinc, lead, copper,** and **silver** are also largely produced.

**Rock salt** and other salts of great commercial value are obtained in the North German plain, especially round Stassfurt.

INDUSTRIES—

Germany has made rapid strides in the development of her industries, and as an industrial country now ranks next to the United Kingdom. One-third of the population is engaged in manufacturing industries on or near the coalfields.

The principal manufactures are the **textiles**— woollen, linen, cotton, and silk —**iron** and **steel, paper, beet-sugar, glass, pottery, chemicals,** and **machinery. Beer-brewing** and **wood-carving** are also characteristic and important industries.

## X. Communications.

The Rhine is the most important waterway of Germany, and next in importance are the great rivers of the North German plain, which are connected with one another by canals.

A ship canal connects the estuary of the Elbe with the Baltic Sea near Kiel.

Next to the United States, Germany has the greatest railway system in the world, and, from its central situation, it is of international importance.

**Berlin**, on the route from western Europe to Russia, is the centre of the system.

Other important centres are **Frankfurt-on-Main**, where the Rhine valley railways meet those of central and southern Germany; **Munich**, on the route to Vienna and Constantinople, connected with Italy by the Brenner Pass line; **Leipzig**, where lines from the northern plain meet those of Saxony and the northern Central Highlands.

## XI Trade and Commerce

The external trade of Germany is advancing rapidly, and her mercantile marine is second only to that of the United Kingdom.

Trade is chiefly carried on with the United Kingdom, the United States, Austria-Hungary, and Russia. The exports are chiefly manufactured goods: the imports food and raw materials.

**Exports: Iron** and **iron goods, machinery, sugar, coal, textiles, paper, pottery, glass, leather goods, woollen goods,** and **aniline dyes**

**Imports: Cereals, raw cotton, wool, coffee, hides, raw silk, petroleum.**

## XII. Government

The states composing Germany have their own independent forms of government, but they are subordinate to the central government for the common affairs of the empire.

The **Emperor** must be the King of Prussia, and he appoints the Imperial Ministers There is also a **Federal Council,** representing the constituent states of the empire, and an **Imperial Diet** elected by the whole German people

ARMY—

The German Army is one of the largest, and is reputed to be the most efficient in Europe.

NAVY—

The navy is sufficient for the defence of the coasts, but, in view of Germany's colonial and commercial expansion, it is being greatly increased.

EDUCATION—

Education is more perfectly organised than in any other country. Every one can read and write; there are numerous and excellent universities; and special education for industries and commerce has been carried to great perfection. Much of Germany's remarkable progress in every direction during the 19th century must be ascribed to the attention paid to education.

EMIGRATION.—

The rapidly increasing population of Germany has caused a large emigration, chiefly to the United States. As a rule, German immigrants become naturalised in the country of their adoption, and make thriving citizens.

## XIII. Political Sub-divisions and Towns.

Germany is divided into **North Germany** and **South Germany**.

South Germany consists of **Bavaria** in the east, **Würtemberg** in the centre, and **Baden** and part of **Hesse** along the Rhine in the west. The imperial province of **Alsace-Lorraine**, west of the Rhine, also belongs to South Germany.

By far the greater portion of North Germany is included in **Prussia**, which has an area of 134,603 square miles. **Saxony**, the state next in size, is only 5787 square miles, and only one other, **Mecklenburg-Schwerin**, exceeds 5000 square miles. Most of the smaller states occupy central Germany west of Saxony. The only states that share the coast with Prussia are the grand duchies of **Mecklenburg-Schwerin**, **Mecklenburg-Strelitz**, and **Oldenburg**, and the free towns of **Lübeck**, **Hamburg**, and **Bremen**.

TOWNS.—

**Berlin** (1,884,000), the capital of Prussia and of the German Empire, is situated on the Spree, in the middle of the North German plain. It has many splendid buildings, and has grown very rapidly to its present size. It has the principal German university, and is one of the leading manufacturing and business towns of the empire.

**Charlottenburg** (189,000), four miles west, is practically part of the capital.

**Hamburg** (706,000), a free town on the estuary of the Elbe, is practically one with **Altona** (161,000), a town of **Prussia**. It is the greatest seaport on the continent of Europe, and has a large trade with Great Britain and the United States.

**Munich** (500,000), the capital of Bavaria, is situated on the Isar in the middle of the sub-Alpine plateau. It has many handsome buildings and the second university of the empire. It is a great railway centre, and the greatest beer-brewing town in the world.

**Leipzig** (455,000), in Saxony, on the Elster, is, next to Berlin, the chief inland trade centre in Germany It is the centre of the German book trade, and has a great university, the third in the empire.

**Breslau** (422,000), on the Oder, is the capital of the Prussian province of Silesia. It is a busy manufacturing town, and a centre of trade with the countries to the east.

**Dresden** (395,000), the capital of Saxony, on the Elbe, is famous for its art treasures and fine architecture. It is also a manufacturing town, making pianos, sewing-machines, china figures, etc.

**Cologne** (372,000), on the left bank of the lower Rhine in Prussia, is an important river-port and railway centre, and is famous for its cathedral

**Frankfurt-on-Main** (288,000) is the great railway and trade centre of western Germany. It is a busy river-port.

**Magdeburg** (229,000) is the capital of the Prussian province of Saxony. It is situated on the Elbe, where the railways from Berlin, Leipzig, and Hamburg meet, and is very strongly fortified It is the centre of the beet-sugar trade

**Hanover** (235,000), the capital of the province (formerly kingdom) of that name, is a rising manufacturing town.

**Düsseldorf** (213,000) is a manufacturing town on the Rhine below Cologne.

**Königsberg** (188,000), on the Pregel in east Prussia, has a large trade in hemp, flax, tow, and timber.

**Nuremberg** (261,000), in Bavaria, is a town with beautiful old buildings of the Middle Ages, when it was the chief commercial town in Germany. It is again becoming commercially important.

**Chemnitz** (206,000), on the Saxony coalfield, is a great cotton-spinning town.

**Stuttgart** (176,000), prettily situated on the Neckar, is the capital of Wurtemberg. It is an industrial town, and the centre of the South German printing and publishing trade

**Bremen** (163,000), a free town on the Weser estuary, is a rising port.

**Stettin** (211,000), on the Oder, the capital of Pomerania, is a busy port (the nearest to Berlin) and an industrial centre.

**Elberfeld** (156,000) and **Barmen** (141,000) are towns engaged in textile industries that have grown up on the Ruhr coalfield.

**Strassburg** (150,000), the capital of Alsace-Lorraine, situated near the Rhine, is an important trade and railway centre. It has a famous cathedral.

**Danzig** (140,000), in the delta of the Vistula on Danzig Bay, is a manufacturing town, and exports wood and wheat that comes down the Vistula.

**Halle** (156,000), on the Saale, is a growing manufacturing town, and the seat of an ancient university.

**Brunswick** (128,000), the capital of the duchy of that name, exports agricultural produce.

**Dortmund** (142,000) is the centre of the coal-mining industry on the Ruhr coalfield.

**Aix-la-Chapelle**, or **Aachen** (135,000), has a woollen industry, and manufactures needles. It is famous for its mineral springs.

**Krefeld** (107,000), near the Rhine below Dusseldorf, is the principal seat of the silk and velvet manufacture.

Other important towns are **Mulhausen**, **Karlsruhe**, **Mannheim**, **Mainz** (Mayence), **Koblenz** (Coblentz), in the Rhine valley; **Bonn**, **Göttingen**, **Heidelberg**, **Jena**, **Tübingen**, university towns; **Kiel** and **Wilhelmshaven**, naval ports.

## XIV. Foreign Possessions.

Germany has about one million square miles of foreign possessions, all of which have been acquired since 1884.

In Africa, Germany has **German South-west Africa**, **German East Africa**, and **Kamerun** and **Togoland** in the Gulf of Guinea, amounting to over 900,000 square miles. She also has **Kiauchau Bay** in China, and several archipelagoes in the Pacific.

### Questions

1. Describe the situation of Germany. What countries lie north and south of it? What is its shape?

2. What are the disadvantages of the German coast from a commercial point of view? What are the hafis?

3. Into what natural divisions is Germany divided? Draw a sketch-map showing the chief mountain ranges of the central high lands.

4. Draw a sketch-map showing the courses of the principal rivers across the northern plain Name the openings on the coast, and mark the position of the ports.

5. What part of Germany belongs to the basin of the Danube?

6. What kinds of climate are found in Germany? Where are the wine districts, and why?

7. What is the most thickly populated part of Germany? Why is this so?

8. The staple food of the peasantry is rye or black bread. Give a reason for this.

9. Where are the chief coalfields? Mark their positions on a map, and also the following towns: Aix-la-Chapelle, Saarbrucken, Essen, Elberfield, Barmen, Krefeld, Chemnitz, Dortmund, Breslau.

10. Why is the German railway system of European importance?

**Mention towns that are important as railway centres, and say in what their importance consists.**

**11. Give some account of the trade of Germany. Give reasons for its rapid expansion in recent years.**

**12. Name and give the situation of the South German States. Give some account of the chief towns in each.**

**13. Give the six largest towns in Prussia. Say what they are noteworthy for, and give their exact situation.**

**14. Draw a sketch-map of the Rhine valley, marking the towns situated where its tributaries join it.**

**15. What and where are Silesia, Wilhelmshaven, Rugen, the Erzgebirge, Zugspitze, the Neckar, Bonn, the Black Forest, the Eifel, Oldenburg, Lubeck, Hamburg, the Elster, Jena, Karlsruhe, and Kiel?**

## AUSTRIA-HUNGARY.

### I. Situation and Size.

Austria-Hungary is a state formed by the union under one ruler of two distinct monarchies—the empire of Austria, and the kingdom of Hungary.

Its geographical features—surface, climate, races, and languages—are the most varied of any country in Europe.

> Austria-Hungary occupies the south-east of central Europe. An oblong, with Budapest as the centre, whose longest sides are the parallels of 45° and 50°, and the shortest sides the meridians of 13° and 26°, encloses nearly the whole of it.
>
> Small portions of the country project out of this oblong, and Dalmatia, the narrow strip along the Adriatic, extends as far south as 42°.
>
> The **area** of Austria-Hungary is 240,943 square miles, so that it is considerably larger than either Germany or France.

### II. Boundaries.

North : Germany and Russia.

East : Russia and Roumania.

South : Roumania, Servia, Montenegro, the Adriatic Sea, and Italy.

West : Italy, Switzerland, and Germany.

### III. Coast.

> **Austria-Hungary extends to the Adriatic, but its seaboard, as it leads to a mountainous interior, is of little commercial value. It consists of the gulfs of Trieste and Quarnero, separated by the peninsula of Istria, and the rocky coast of Dalmatia, fringed by numerous islands.**

## IV. Relief.

The natural divisions of Austria-Hungary correspond very closely with its main political divisions.

The whole of the south-west, from the Danube to lat. 46°, is occupied by the eastern **Alps**, which consist of three main ranges running west and east, through the **Tyrol** and the provinces east of it, as far as the plains of Hungary.

Valleys running in the same direction separate the central range, which contains the highest peaks, **Ortler Spitze** (12,800 feet), and the **Gross Glockner** (12,400), from the ranges north and south of it

In the north-west, on the other side of the Danube valley occupied by Austria proper, is **Bohemia**, a plateau forming the basin of the upper Elbe

Bohemia is enclosed by the **Bohmer Wald**, the **Erzgebirge**, the **Riesengebirge** and **Sudetes** ranges, which separate it from Germany.

Between Bohemia and the western slopes of the Carpathians are **Moravia**, and, north of it, **Austrian Silesia.**

The **Carpathians** start from the Danube near Pressburg, and return to the Danube as the **Transylvanian Alps** on the borders of Roumania, after making a great curve, more than 1000 miles long, enclosing the plains of Hungary.

In the north they expand into the Hungarian highlands, where, in **High Tatra**, 8700 feet, they reach their highest. In the east they expand into the highlands of Transylvania.

**Galicia** and **Bukovina** occupy the northern and north-western slopes of the Carpathians, and belong geographically to the adjoining parts of Russia

The Alps in the south-east are separated from the mountains of the Balkan Peninsula, which are known as the **Dinaric** or **Illyrian Alps**, by a barren limestone plateau called the **Karst**, north of the peninsula of Istria, in which the rivers disappear underground.

The northern portions of the Dinaric mountains, and the tongue of lowland between the Drave and the Save form **Croatia** and **Slavonia.**

Further south **Bosnia, Herzegovina,** and **Dalmatia** along the Adriatic coast, are traversed by ranges of the Dinaric system, whose general direction is parallel to the coast of the Adriatic.

## V. Rivers and Lakes.

The greatest part of Austria-Hungary belongs to the middle basin of the **Danube**. This great river, the second in Europe, rises in the Black Forest, in Germany, enters Austria as a navigable river from Bavaria, and takes an eastward course past Vienna, through the "Hungarian Gate" between the Alps and Carpathians near Pressburg, into Hungary. It then turns sharply south, and flows past Budapest to its confluence with the Drave. Resuming an eastward course, it receives the Theiss, which flows south parallel to the Danube across the great Hungarian plain, and the Save, and finally leaves Hungary by the "Iron Gates" between the Transylvanian Alps and the northern spurs of the Balkans.

The Danube receives many important tributaries. The **March** brings to it above Pressburg the drainage of Moravia, the **Inn** that of northern Tyrol, the **Drave** that of the central and eastern slopes of the Alps, the **Save** the drainage of the south-eastern Alps, and that of the northern slopes of the Dinaric Alps in Bosnia, the **Theiss** that of eastern Hungaria and Transylvania.

The **Elbe** rises in northern Bohemia, but its tributary the **Moldau** brings to it most of the drainage of the Bohemian plateau.

The **Oder** rises in the north of Moravia, and flows across Silesia into Germany.

Galicia belongs to the basins of the **Vistula** and **Dniester**, both of which rivers rise on the northern slopes of the Carpathians.

The **Adige** drains southern Tyrol, and flows from the Alps into the plains of Lombardy.

LAKES—

The largest lake is **Lake Balaton** or **Platten See**, in Hungary.

## VI. Climate

In the west the country is under the influence of the Atlantic Ocean, and the climate, though it varies with the elevation, is generally moderate. The valley of the Adige and the Adriatic lands have a Mediterranean climate with warm summers and mild winters.

Hungary and Galicia have an extreme or continental climate, with hot summers and very cold winters.

The rainfall is heaviest on the mountains that encircle the country. The rainfall of the interior plains and plateaux varies from 15 to 25 inches.

## VII. Plants and Animals.

The mountains are mostly forest clad, and one-third of the whole country is under **forest**.

The plains of eastern Hungary and of Galicia belong to the grassy **steppe** region of south-eastern Europe.

Many wild animals remain in the great forests. The **bear, wolf, wild boar, stag, deer**, etc., are common.

## VIII People.

POPULATION—

The population in 1890 was 41¼ millions, or 167 to the square mile.

Austria-Hungary is therefore rather more populous than France, and considerably less populous than Germany.

RACES AND LANGUAGES—

The people are of many races. The **Teutonic race predominates** in the west and south-west, and **Germans** form about one-fourth of the total population. **Slavs** form nearly half the population: **Chechs**, in Bohemia and Moravia, **Poles** in Galicia, **Croats** in Croatia and Dalmatia. About 3½ millions are of **Romanic** race. **Roumanians** in Transylvania, and **Italians** in the southern Tyrol and on the Adriatic coast.

The **Magyars**, a distinct race, form about half the population of Hungary.

As the result of this mixture of races a variety of languages is spoken, and in most parts of the country at least two languages are in common use.

RELIGIONS—

Most of the people are **Roman Catholics**, but, in the east, **Protestants** and members of the **Greek Church** are found, and in some towns there is a majority of **Jews**.

## IX. Products and Industries.

Austria-Hungary is still mainly an agricultural country.

AGRICULTURAL PRODUCTS—

The principal cereals of Austria are **rye** and **oats**, and of Hungary **wheat** and **maize**.

Hungarian wheat is of excellent quality, and its cultivation is extending steadily.

**Potatoes, beetroot, barley** and **hemp** are also important crops. **Hops** are grown in Bohemia, and **tobacco** in Hungary. The **vine** is cultivated in the warmer valleys of the Tyrol and Bohemia, and extensively in Hungary

MINERALS—

There is much mineral wealth in the mountainous parts of the country, especially Bohemia and Silesia, where **coal, lignite,** and **iron** are abundant.

> Galicia has great **salt mines**, Styria, in the eastern Alps, has a very pure **iron ore. Silver, lead, quicksilver,** and **zinc** are also obtained.

INDUSTRIES—

As usual, the principal industries are found near the coal supply, and the manufacturing districts of northern Bohemia, Moravia, and Silesia are the most densely populated parts of the country.

> **Woollen, linen, cotton,** and **jute goods, iron goods,** especially **agricultural implements** and **machinery,** are manufactured. **Bohemian glass** is famous. **Fezes** for the eastern markets and **bent-wood furniture** are specialities of Austria. Pilsen is famous for its **beer** **Silk** is manufactured in the southern Tyrol.

## X Communications

The Danube is navigable by steamers throughout the empire, and so too are the lower courses of its tributaries the Theiss, the Drave, and the Save The Moldau is navigable from Prague downwards. The railway system is incomplete, especially in Hungary, but the main lines connecting the empire with the surrounding countries are constructed, and Vienna is a great meeting place of international routes.

> Austria is connected with Italy by the **Brenner pass**, and with Trieste and Fiume by the **Semmering pass** The Arlberg tunnel connects it with Switzerland, and railways cross several passes leading to Germany and Russia. The line to Constantinople leaves the country at Belgrade.

## XI. Trade and Commerce.

> The trade of Austria-Hungary with other countries is not great, but it has increased since the development of the ports of Trieste and Fiume.

The principal **imports** are: **raw cotton, grain, raw wool, coffee,** and **tobacco.**

The principal **exports** are: **wheat** and **barley, sugar, timber, animals,** and **woollen goods.** There is no great export of manufactured products.

## XII. Government.

Austria and Hungary are entirely independent as regards internal administration, but the Emperor of Austria is always King of Hungary, and the relations with foreign powers, the army and navy, and the customs are managed by the common ministry of the Austro-Hungarian Monarchy.

ARMY AND NAVY—

Military service is compulsory, and the army is one of the largest in Europe.

The navy is intended mainly for coast defence, and is highly efficient. Its headquarters are at **Pola** on the Adriatic.

EDUCATION—

Some of the provinces are of backward civilisation, and the general standard of education is not so high as in the countries to the west.

In Austria less than half, and in Hungary more than half the population can neither read nor write.

Higher education is good, and there are famous universities at Vienna, Prague, and Budapest.

There is a considerable **emigration** to the United States and to South America.

## XIII. Towns.

**Vienna** (1,365,000), the capital of Austria and of the Austria-Hungarian monarchy, is situated on the right bank of the Danube near the last spurs of the Alps. It is a beautiful city, a railway centre of European importance, and a manufacturing town Its special manufactures are bronze goods and instruments, furniture, clothes, and fancy wares. The Viennese are a lively and pleasure-loving people, and Vienna attracts people of many nationalities.

**Budapest** (506,000), the capital of Hungary, is picturesquely situated on both banks of the Danube. It was formerly two towns, Buda on the right bank and Pest on the left bank of the Danube. It is a growing place, and is the centre of the intellectual and commercial life of Hungary.

**Prague** (184,100), the capital of Bohemia, is situated in the narrow valley of the Moldau. It has two universities, one for Germans and one for Chechs. It is an important railway centre, and manufactures engines and railway cars.

**Trieste** (158,300) is the chief port of Austria, and has developed rapidly since the railway to the interior was made. It stands on an open bay at the north-east end of the Adriatic.

**Lemberg** (128,400) is the largest town of Galicia, and a junction for lines leading to Russia. West of it is **Cracow**, the ancient capital of Poland. **Czernowitz**, on the Pruth, near the Russian frontier, is the capital of Bukovina.

**Gratz** (113,500), the capital of Styria, is on the railway which crosses the eastern spurs of the Alps to Trieste

**Laibach**, the capital of Carniola, **Salsburg**, beautifully situated on the borders of Bavaria, **Pressburg** (Pozsony), a handsome city on the Danube close to the Austrian border, **Brünn**, the capital of Moravia, and the chief centre of the woollen manufacture, **Szeged**, **Debreczen**, and **Arad**, the chief towns of the great Hungarian plain, and **Fiume**, on the Gulf of Quarnero, the port of Hungary, have all less than 100,000 inhabitants.

Austria-Hungary has no foreign possessions, but since 1878 has ruled **Bosnia** and **Herzegovina** (area, 23,000 square miles), nominally Turkish provinces, and belonging geographically to the Balkan Peninsula. This territory is mountainous, and half of it is forest, but the soil is naturally fertile, and there is much mineral wealth

The people are **Croatians** of Slavonic race, and more than one-third are Muhammadans. Civilisation is very backward, but there has been great progress since the Austrian occupation, and roads and light railways have been constructed. **Tobacco** is the most important crop, and there is abundance of **fruit**. **Dried plums** are exported. The capital of Bosnia is **Sarajevo** (38,000), in the south of Bosnia, and of Herzegovina, **Mastar**.

**Liechtenstein** is a very small independent state on the borders of Switzerland.

QUESTIONS.

1. Describe the situation of Austria-Hungary, and compare it as to size with the surrounding countries, and with India
2. Describe shortly the natural features of the divisions of Austria-Hungary, and the corresponding differences of climate.
3. Draw a sketch-map of the basin of the Danube, showing its principal tributaries What other large rivers have their origin within the country?
4. What are the principal races inhabiting Austria-Hungary, and what parts of the country do they inhabit?
5. What parts of the country are industrial, and what are their principal products?
6. Why is Vienna a railway centre of European importance?
7. What and where are Budapest, Lemberg, Trieste, Cracow, Debreczen, Pressburg, Salsburg, and Brunn?

## ROUMANIA.

### I. Situation, Size, and Boundaries.

Roumania occupies the delta and the northern part of the lower basin of the Danube. It has Russia north and east of it, Hungary to the west, Servia and Bulgaria on the south.

Its boundaries are for the most part natural ones. The Carpathians separate it from Hungary, the River Pruth from Russia, the Danube from Servia and Bulgaria, and, in the east, it touches the Black Sea.

In shape it resembles a butterfly with its open wings resting on the Carpathians, its head being the delta of the Danube, and the tract to the south of it called the **Dobruja**. The northern wing is the ancient principality of **Moldavia**, and the southern wing that of **Walachia**.

The area of Roumania is 50,720 square miles, so that it is nearly the same size as England

## II. Relief and Rivers

**Moldavia** occupies the eastern slopes of the Carpathians, and extends to the Pruth. Most of it is a plateau sloping south.

**Walachia** occupies the southern slopes of the Transylvanian Alps, and the rich alluvial plain between them and the Danube

Near the Danube it is very low and marshy, whereas the southern Bulgarian bank is high

The Danube (1800 miles) enters the country at the "Iron Gates," and skirts the southern edge of the Walachian plain until it reaches the Dobruja plateau. It then turns north, and, after receiving the Pruth, breaks up, and forms a low and swampy delta Its central distributary, called the **Sulina mouth**, is the one used by shipping, and is kept open by artificial means. The coast of the delta and of the Dobruja is low, with many lagoons.

## III. Climate and Products.

Roumania has the typical climate of Eastern Europe. The rainfall is small, the summers hot, and the winters extremely cold. The mean annual temperature of the capital is about the same as that of London, but the *range* of temperature is about double.

In the south-east the country is steppe, and affords grazing ground for sheep and cattle. The rest of the Roumanian plain is a very rich grain country, and large quantities of wheat and maize are exported. On the higher grounds cattle, sheep, and horses are bred, and there are large herds of goats and swine in the forests of the Carpathians.

Roumania is essentially an agricultural country, and the industries are unimportant. There is some **salt-mining**, and **petroleum** is extracted.

## IV. Communications and Trade.

The Danube is an international trade highway, and the Pruth is also navigable.

Bukarest is the centre of the railway system, which is connected with the Russian and Hungarian systems, and is fairly complete.

**Cereals** are the only large **export**, and **textiles** and **metals** are the principal **imports**.

## V. People and Government.

The population is nearly 6 millions, or 116 to the square mile.

The Roumanians are of **Romanic** race, and speak a **Romance** language, with a considerable admixture of Slavonic words The majority belong to the **Greek church**, and the remainder are mostly **Jews**.

Since 1881 the government has been a **limited monarchy**, and the country has made rapid progress since it was made completely independent of Turkey in 1878.

**Military service** is compulsory, and **education** is free and compulsory, but is still backward.

## VI. Towns

**Bukarest** (282,000), the capital is situated in the middle of the Walachian plain. Since the country obtained its independence the town has improved greatly, and now has numerous handsome buildings of western type. It has a university

**Jassy** (78,000), near the Pruth, is the capital of Moldavia.

**Galatz** and **Braila** are the principal ports. They are situated on the Danube above the delta, and are connected by railway with the capital and with southern Russia.

### QUESTIONS.

1. Describe the natural boundaries and natural divisions of Roumania.

2. What countries does the Danube place it in direct communication with?

3. What are the chief products of Roumania, and what are the principal imports?

4. Compare the country with England as regards size and density of population.

5. What do you know of Jassy, Galatz, the Dobruja, and Bukarest?

# THE STATES OF THE BALKAN PENINSULA.

## I. Introductory.

The Balkan Peninsula is the most easterly of the three peninsulas stretching south from the mainland of Europe. Unlike Italy and the Iberian Peninsula it has a long land frontier, and is not cut off from the mainland by a chain of mountains. The Danube, the Save, and the Kulpa, a tributary of the latter, form a natural boundary, which is completed to the Adriatic by a line drawn from the source of the Kulpa to Fiume, and to the Black Sea by the southern border of the Dobruja in Roumania.

The states along the northern frontier are **Bulgaria** in the east, **Servia** in the centre, **Bosnia**, now under Austrian rule, in the west. The Adriatic seaboard is occupied by **Dalmatia** and **Croatia**, belonging to Austria.

South of these states are **Turkey**, and the small state of **Montenegro** in the west.

The quadrilateral formed by these states is the Balkan Peninsula proper. Another peninsula projecting from this in the south-west is mainly occupied by **Greece**. The whole peninsula is comprised between 36° and 46° lat. N. It is in the same longitude as Cape Colony. In area the peninsula comes between Italy and the Iberian Peninsula.

## II. Coasts.

The shores of the peninsula proper are washed on the **east** by the **Black Sea** and the **Bosporus**, on the **south** by the **Sea of Marmora**, the **Dardanelles**, and the **Aegean Sea**, and on the **west** by the **Strait of Otranto**, and the **Adriatic Sea**.

Greece projects into the Mediterranean, and has the **Aegean Sea** on the east, and the **Ionian Sea** on the west.

In the Bosporus and Dardanelles, at the ends of the Sea of Marmora, Europe almost touches Asia, and these straits and the Aegean archipelago have been crossing places between Europe and Asia from the earliest times.

The **northern** shore of the Aegean Sea is mostly low, but the mountainous peninsula of **Chalcidice**, with its three promontories, cuts off the **Gulf of Salonica** in the west.

The **coast of Greece** is most irregular, and is indented on every side by deep gulfs which subdivide the country. Southern Greece, the **Morea** or **Peloponnesus**, is thus cut off from the rest of the country by the **Gulfs of Aegina** and **Corinth**, and the connecting **Isthmus of Corinth** is now crossed by a ship canal.

**Cape Matapan**, the most southerly point of the Balkan Peninsula, is at the end of the middle promotory of the three which project from the south of the Peloponnesus.

The **west** coast facing the Adriatic is low as far as the south of Montenegro; further north it is mountainous.

ISLANDS—

The **Ionian Islands**, of which the largest are **Corfu**, **Cephalonia**, and **Zante**, lie off the west coast of Greece. The **Northern Sporades** and **Cyclades** lie off the east coast. The largest island of Greece is **Euboea**, close to the north-east coast. Still larger is **Crete** or **Candia**, a mountainous island (**Mount Ida**, 8000 feet) south of the Aegean Sea, recently granted self-government under the suzerainty of Turkey.

## III. Relief and Rivers.

Only small portions of the Balkan Peninsula are below 600 feet in elevation. A strip of lowland borders the Danube and Save in the north; another strip runs towards the Black Sea south of the Balkans in East Rumelia; and the lower basins of the Maritsa, Vardar, and other rivers form patches of low country at different parts of the coast But most of the peninsula is composed of mountains, mountain basins, and deep valleys.

The **Dinaric Alps** in the west consist of a number of ranges parallel to one another and the coast of the Adriatic. They are continued down to the extremity of Greece by the **Pindus** range and its offshoots. This system has a striking resemblance to the mountain system of the Indo-China Peninsula.

In the north-east the **Balkans** continue the curve of the Carpathians south and east to the Black Sea. They slope gently to the Danube, and abruptly to East Rumelia, but they never rise above 8000 feet, and are crossed by numerous passes.

The mountain region between the Balkans and the Dinaric Alps shows no regular system. A line of valleys and mountain basins has afforded a route from time immemorial from Central Europe to the Aegean Sea and Asia Minor.

The **Rhodope Mountains**, or **Despoto Dagh**, running towards the Black Sea, bound the middle basin of the Maritsa on the south. They rise to nearly 10,000 feet. The highest point in the peninsula is in the **Shardagh**, 10,000 feet, north of the head waters of the Vardar, but **Olympus** in Thessaly, on the borders of Greece, is nearly as high, and **Parnassus**, in the heart of Greece, is over 8000 feet.

The chief rivers are the **Morava**, a tributary of the Danube which drains Servia, the **Vardar**, which flows to the Gulf of Salonica, and the **Maritsa**, the largest river of the peninsula, which drains East Rumelia, and flows past Adrianople to the Aegean Sea All these have their origin in the central highlands.

## IV Climate and Products.

The Balkan Peninsula is farther south than most of France, but the effect of lower latitude is interfered with by the elevation of much of the country, and in the east by exposure to the cold winds from the Russian steppes.

Hence the middle of the peninsula proper, and the Black Sea coastlands, have hot summers and very cold winters The west and south coasts and the whole of Greece have a Mediterranean climate with hot summers and mild winters, and the Adriatic seaboard has a heavy rainfall.

The vegetation of the interior, like the climate, is that of central Europe; in the west and south it is that of the Mediterranean, and in the lowlands **evergreen shrubs** and the **olive** take the place of the **oak**, **beech**, and **pine**. In the east there is a **steppe** region.

**Maize** and **wheat** are the principal cereals grown, and **fruit** is abundant.

The people in many parts live by rearing **cattle**, **sheep**, and **goats**, and great herds of **swine** feed in the oak forests of the mountains

The animal life tells us that we are nearing the east. **Jackals**, **buffaloes**, and **fat-tailed sheep** are found in the plains of the south and east.

The peninsula is rich in minerals, but, except a little **coal**, they are scarcely worked.

## V. People.

The Balkan Peninsula has a considerably smaller population (15½ millions) than either of the other two southern peninsulas.

This is partly due to the inhospitable nature of much of the country, and partly to centuries of misrule.

In the peninsula proper the people are mostly of **Slav race**—**Servians** and **Bulgarians**.

The **Albanians** in the south-west are **Romanic**, and the **Greeks** are of kindred stock. **Turks** are only numerous in Turkey, where they form about one-third of the population.

Numerous **Greeks**, **Jews**, and **Armenians** are settled in the towns and on the coast as tradesmen and merchants.

The condition of the people is improving, and life and property are much safer than they were when the whole of the peninsula was under Turkish rule. But civilisation is still backward, and, except in Greece, the majority of the people can neither read nor write. Most of the people belong to the **Greek Church.** The Turks are **Muhammadans.**

## VI. Communications.

The Danube and the Save form most of the northern boundary, but of the interior rivers only the **Maritsa** is at all serviceable as a waterway.

Roads also are bad, being often mere tracks.

An international railway now follows the old route from central Europe to Constantinople. It goes up the Morava valley from Belgrade, then crosses the Sofia basin, and descends the Maritsa valley to Adrianople and Constantinople

From a point further up the Morava valley a line gains access to the valley of the Vardar, which it descends to Salonica. There are also several lines of railway in Bulgaria and Greece.

## VII. States and Towns.

### BULGARIA.

**Bulgaria** (38,000 square miles population, 3½ millions) occupies the Balkans and their northern slopes as far as the Danube, and the Sofia basin south-west of the Balkans. Since 1886 it has also comprised East Rumelia south of the Balkans.

The country, which extends to the Black Sea on the east, is a principality under the suzerainty of the Sultan of Turkey.

**Maize** and **wheat** are the chief crops of the Danube basin; south of the Balkans in East Rumelia, **tobacco, cotton, silk, wine,** and **fruit** are produced. **Roses** are largely grown for the extraction of **attar**

**Grain, farm produce,** and **attar of roses** are exported; **textiles, metals,** and **machinery,** chiefly from the United Kingdom and Austria, are the principal **imports.**

TOWNS—

**Sofia** (46,600), in a mountain basin south of the Balkans, is the capital. The railway to Constantinople passes through it.

**Philippopolis** (41,000), on the Maritsa, is the capital of East Rumelia. **Vidin, Varna, Rushchuk, Silistria,** and **Plevna** are noted in connection with military history. A railway connects Rushchuk on the Danube with **Varna** on the coast, and a branch from the Constantinople line goes to **Burgas Bay.**

## SERVIA

The kingdom of **Servia** (18,455 square miles: population about 2½ millions) lies west of Bulgaria, touching the Danube and Save on the north.

It occupies the basin of the Morava, and is the only Balkan state that is entirely inland.

In the east it is traversed by the **Balkans**, which run down to the Danube at the Iron Gates The **Drin**, another tributary of the Danube, forms the greater part of its boundary on the west.

Less than a quarter of the country is under cultivation, and the people depend mainly on the breeding of **live-stock**, particularly **swine**. **Fruit**, especially **plums**, is very abundant.

Trade is carried on with Austria-Hungary, **swine**, **prunes** (dried plums), and **farm produce** being exported, and **manufactured goods** being imported.

TOWNS—

**Belgrade** (60,000), the capital, is situated on a hill at the junction of the Save and the Danube. It commands the route from central to south-eastern Europe At **Nish** (22,000), on the upper Morava, the lines to Constantinople and Salonica diverge

## MONTENEGRO.

This is a small principality in the Dinaric Alps, with an area of 3600 square miles and a population of a quarter of a million.

The inhabitants, a stalwart race of honest mountain folk, who have always maintained their independence, make their living by **cattle-rearing**. The capital, **Cetinje**, is only a large village.

## TURKEY.

South of the states already described the territory remaining under the despotic rule of the Sultan stretches from sea to sea.

Turkey-in-Europe has an area of 65,752 square miles and a population of 6 millions.

It comprises **Albania** in the west, in the Dinaric region, and, east of Albania, the ancient countries of **Macedonia** and **Thrace**.

Owing to bad government the peasants are very poor and ignorant, roads are bad, agriculture is backward, and industries scarcely exist.

The principal crops are **wheat**, **maize**, **cotton**, and **tobacco**. **Olives** grow on the southern coast, and **wine**, **opium**, and **silk** are produced.

The **buffalo** is the ordinary beast of burden.

Trade is principally carried on with the United Kingdom, and the chief exports are **grapes**, **silk**, **figs**, **mohair**, **olive oil**, **opium**, **cotton**, **valonia** (acorns); and the chief imports **linen**, **sugar**, **cotton quilts**, **coffee**, **flour**, and **rice**.

TOWNS—

**Constantinople**, or **Stambul** (1,125,000), the capital, once the capital of the Roman empire, and the most famous city of the world in the early middle ages, is splendidly situated on the **Golden Horn**, an inlet running westward at the southern end of the Bosporus. The mosque of St. Sofia survives from Roman times. On the opposite side of the Golden Horn are the European suburbs of **Pera** and **Galata**. About half the inhabitants are Muhammadans; the rest are Greeks, Armenians, and other foreigners It is a great emporium for Eastern goods. The Orient express runs from Paris, via Vienna, Budapest, and Belgrade, to Constantinople in 72 hours.

**Salonica** (105,000), near the mouth of Vardar at the head of the Gulf of Salonica, is one of the termini of the great railway from central Europe, and is thus in direct communication with Paris and London. It is an important port, and half the population are Jews of Spanish origin.

**Adrianople** (81,000) stands at the head of navigation on the Maritsa, where the roads from the Balkans meet the railway to Constantinople. It is a place of great military importance, and also a trading and manufacturing town.

**Gallipoli** (30,000), on the Dardanelles, is the principal station of the Turkish fleet.

**Janina** (20,000) and **Scutari** on the Drin, close to Lake Scutari, are the principal towns in Albania.

The Turkish or Ottoman Empire includes about one million square miles in Asia and Northern Africa, besides Egypt, Bulgaria, and other countries only nominally part of the empire.

## GREECE.

The kingdom of Greece (25,014 square miles: population, 2½ millions) occupies the mountainous and irregular peninsula, with its attached islands, that projects southward from the Balkan Peninsula proper. The country is famous as the seat of an early civilisation whose achievements in literature, art, and perhaps philosophy, remain unsurpassed.

Many of the names of Greek geography are, in consequence, familiar to all persons of education, although their actual importance, in relation to the general geography of Europe, is usually but slight. Mounts Olympus, Parnassus, Ossa, Pelion, Taygetus, are, however, geographically important; but most of the rivers of Greek literature are scarce worthy the name, and such famous places as Sparta, Thebes, Corinth, Argos, etc., are now small towns or mere villages.

The deep gulfs that run inland from every side of Greece divide it into parts that are often still more isolated from one another by the mountains of the interior. The largest plain is Thessaly in the north-west. There are also extensive fertile tracts in the north-east of the Peloponnesus.

Only a small proportion of the country is cultivable, and sufficient grain is not grown for the needs of the population. But in the warm lowland valleys, **olives, wine, tobacco, and fruit** are abundantly produced.

The sea produces **sponges**, and there is an important **mining** district at the end of the Athens peninsula.

The small grape, which when dried is called the **currant**, is peculiar to Greece and the Ionian Islands.

The Greeks are keen sailors and traders. They are found all over the Levant, and their merchant fleet is considerable.

**Currants** are the most valuable **export**: other important exports are **ores of iron, lead,** and **zinc, wine, olive oil, figs, tobacco** and **sponges.**

**Imports** are **wheat, yarn, coal, fish, hides, sugar,** and **coffee.**

TOWNS—

**Athens** (111,500), the capital, is situated in the peninsula of Attica, 4½ miles from its harbour, the **Piraeus**, on the beautiful gulf of Aegina It was the most famous city of the ancient Greek world, and the centre of its intellectual life. The magnificent ruins on and around the Acropolis, a flat-topped rock rising abruptly 150 feet above the plain, testify to its former splendour.

Since 1835 Athens has again been the centre of Greek life. The modern city is handsomely built, and has a university and other fine public buildings. A good many industries are now carried on around Athens and the Piraeus (42,000).

**Patras** (38,000), a port in the north of the Peloponnesus, connected by rail with Athens, has a great export of currants.

**Corfu** and **Zante** are the largest towns in the Ionian Islands. The island of **Euboea** or **Negropont** is famous for its wine, and **Syra** or **Hermoupolis** in the Cyclades is the chief trade centre in the Aegean Sea.

**Volo is the port of Thessaly, and Trikkala its largest town.**

### QUESTIONS.

**1. Describe the natural boundaries of the Balkan Peninsula, the position of the states that occupy it, and the peoples inhabiting it.**

2. Name from the map the gulfs of Greece, and describe their situation. Which is the largest island of Greece, and where situated?

3. Describe the mountain systems on each side of the "diagonal furrow" across the peninsula which is followed by the great railway to Constantinople.

4. What climates are found in the peninsula? Why will the olive not grow at Constantinople?

5. Mention some of the chief products of the peninsula. What is the principal export from Greece?

6. What and where are East Rumelia, Varna, Sofia, Belgrade, Athens, Crete, Constantinople, Cetinje, Olympus, the Drin, Euboea, Albania, Burgas, Salonica, Adrianople, Thrace, Thessaly, the Morea, the Maritsa, and the Piraeus?

7. What European capitals are nearly due north and due west of Constantinople?

## ITALY.

### I. Situation and Size.

About one-third of Italy belongs to the mainland of Europe. The remainder comprises peninsular Italy, the large islands of Sicily and Sardinia, and numerous smaller islands along the coast.

**Continental Italy** consists of the basin of the Po, and the enclosing slopes of the Alps and the Apennines.

**Peninsular Italy** projects south-east for upwards of 600 miles from central Europe, and its east coast is generally parallel to the west coast of the Balkan Peninsula, from which it is separated by the narrow Adriatic Sea.

Including Sicily, Italy is very nearly comprised between 37° and 47° lat. N., **Cape Passaro**, at the southern angle of Sicily being 36° 38′ lat. N., *i e.* further south than Tunis and Algiers in Africa.

The **shape** of Italy is remarkable. It is like a long boot, with a very distinct toe and heel.

Its **area** is 110,646 square miles, so that it is rather smaller than the United Kingdom. **Sicily** and **Sardinia** are both larger than Wales, Sardinia being the largest island of the Mediterranean.

### II. Boundaries.

North : Switzerland and Austria.

East : Austria, the Adriatic Sea, and the Strait of Otranto.

South : the Ionian Sea and the Mediterranean.

West : the Mediterranean, the Tyrrhenian Sea, the Gulf of Genoa, and France.

## III. Coasts.

The sea is the natural boundary of most of Italy, and few places are more than 60 miles away from it The coast is usually bold, and has many lofty headlands

The **east coast** is fairly regular. The **Gulf of Venice** forms the northern end of the Adriatic, and the **Strait of Otranto** connects the Adriatic with the **Ionian Sea.**

In the "foot" of Italy is the deep **Gulf of Tarentum. Cape Spartivento** is the south-eastern point of the "toe," between which and Sicily the **Strait of Messina** runs north.

**Sicily**, which lies off the toe of Italy, is triangular in shape Its sides face north, east, and south-west, and its north-western angle points to Sardinia.

The **west coast** of Italy, which terminates in the mainland gulf of **Genoa**, consists of a series of shallow bays, of which the most important are those of **Naples** and **Salerno**

**Elba** is a small island between Corsica and Italy

The **Lipari** Islands are a volcanic archipelago north of Sicily.

## IV. Relief.

The **Alps**, whose steepest side is towards Italy, form a natural boundary on the north and north-west

Most of the famous Alpine peaks are outside Italy, but **Monte Viso** (12,600 feet), in the western Alps, is Italian, and **Monte Rosa**, in the central Alps, is partly so.

A low pass separates the Maritime Alps from the **Northern Apennines,** which run round the Gulf of Genoa, and then obliquely across the northern part of the peninsula to the Adriatic.

The fertile **Plain of Lombardy**, which occupies the basin of the Po, and is bounded on the east by the Adriatic, is enclosed on three sides by the Alps and the Northern Apennines.

The **Central Apennines** run down the east coast, and the **Gran Sasso d'Italia,** 9580 feet, in the **Abruzzi,** is the highest point in the Apennines

The **Southern Apennines** run nearer the western coast. They continue right down to the toe of Italy, and reappear along the northern coast of Sicily.

The Central Apennines are steepest towards the Adriatic, and though the peninsula as a whole is too mountainous to allow of the formation of large plains, there are, all down the west coast, and in the river valleys, considerable tracts of fertile lowland.

The longest slopes of the Southern Apennines are towards the Adriatic and the Gulf of Tarentum.

Distinct from the Apennines in the south of Tuscany, and elsewhere along the western seaboard, are several volcanic regions.

**Vesuvius**, overlooking the Bay of Naples, **Etna** (10,700 feet), in the east of Sicily, the highest mountain outside the Alps, and **Stromboli**, in the Lipari Islands, are active volcanoes.

Earthquakes are very common in southern Italy.

## V. Rivers and Lakes.

The **Po** is the one great river of Italy. It rises on Monte Viso, and flows eastward across the plain of Lombardy to its rapidly growing delta on the Adriatic It receives numerous tributaries from the Alps and the Apennines, of which the most important are the **Ticino**, the **Adda**, and the **Mincio**, all on the left bank

The **Adige** enters Italy from the Tyrol, and flows to the Gulf of Venice, north of the Po delta

The **Arno** and the **Tiber**, both of which rise in the Northern Apennines and flow to the Tyrrhenian Sea, are the only considerable rivers of peninsular Italy.

LAKES—

The Italian lakes in the outer valleys of the Alps are famous for their beauty. The largest are **Garda**, drained by the Mincio; **Como**, drained by the Adda; and **Maggiore**, drained by the Ticino.

There are several lakes in the Apennines, of which the best known is **Lake Trasimeno**. There are numerous **lagoons** on the north-western coast of the Adriatic.

## VI. Climate.

The climate of Italy is one of the best in the world, and the country is famous for its clear air, its blue skies, and its romantic scenery. There is an absence of great extremes of heat and cold, and the rainfall is sufficient, varying from about 40 inches in northern Italy to 25 inches in southern Italy The Alps stop the cold winds from the north, and the west coast is further protected by the Apennines, while the whole country is open to the breezes from the Mediterranean.

Unfortunately Italy suffers from the scourge of malaria. Few parts of the country are entirely free from it, and some districts, such as the **Maremna**, on the coast of Tuscany, and the **Roman Campagna**, are practically uninhabitable.

Southern Italy is also subject to the **sirocco**, a hot wind from Africa which parches the soil and dries up the vegetation.

## VII. Plants and Animals.

The vegetation of the coast lands is that of the Mediterranean. The **olive** flourishes everywhere except where the winter is too cold, as in the Plain of Lombardy, where the **mulberry** takes its place.

In the mountains the trees of central Europe flourish, and great forests of **chestnuts** cover the slopes of the Alps and the Apennines around the northern plain. In the south the **olive** grows up to 2000 feet.

The **animal life** is that of Europe generally. **Lizards** are very common.

## VIII. People.

POPULATION—

The population is 32 millions, or 289 to the square mile. Italy is, therefore, after the United Kingdom, the most densely populated of the larger countries of Europe.

About half the population is found on the northern plain.

RACE AND LANGUAGE—

The Italians are the result of a great mixture of races, dating from the time of ancient Roman supremacy, when there was a constant importation of people of conquered races into the country These have now blended with the original stock, but there is a good deal of difference between the people of northern and southern Italy. The **north Italians** are tall and fair; the **south Italians** short and dark.

Italian is a **Romanic** language descended from Latin, and it is understood everywhere in its literary form, although there are many dialects.

RELIGION—

**Roman Catholicism** is the prevailing religion.

The Italians are, on the whole, an industrious and frugal people, but they are passionate in temper, and crimes of violence are common In the south, **secret societies** tend to encourage lawlessness.

## IX. Products and Industries.

The favourable climate allows all European and many tropical crops to be grown. Where irrigation is practised several crops a year can be reaped.

**Maize, wheat,** and **rice** are the staple food crops.

**Macaroni,** made from wheat flour, is a national dish, but **maize,** cooked with vegetables into a mess called **polenta,** is the general, but far from wholesome, diet of the poorer classes.

**Olives, oranges,** and **lemons** are largely cultivated.

The Plain of Lombardy is celebrated for its **farm produce and cheese** (Gorgonzola and Parmesan).

Italy comes second only to China as a **silk**-producing country, and second only to France as a **wine**-producing country.

There are no coalfields. **Sulphur** and **statuary marble** are the most important mineral products. **Borax** is obtained from hot springs in Tuscany. **Iron ore** is found and worked in various parts.

Notwithstanding the lack of coal, Italy has some important industries, especially **silk winding** and **weaving** in the Plain of Lombardy. In the north there are also **cotton, wool, flax, and hemp** manufactures

Water-power is abundant and its application to the generation of electricity seems likely to stimulate the industries of the country.

Other characteristic industries are **straw-plaiting** in Tuscany, the making of **Venetian glass**, **mosaics** (pictures and ornamental work in coloured stone and glass), and **imitations** of the antique

## IX. Communications.

The Po and Adige in the northern plain, and the Tiber and Arno in the peninsula, are the only rivers useful as waterways.

The Plain of Lombardy is covered with a network of **railways**, of which **Milan** is the centre.

The railway system is connected with that of France by the **Mont Cenis tunnel**, and by a line round the Gulf of Genoa; with that of Switzerland and Germany by the **St. Gothard tunnel**, and with that of Austria by the **Brenner Pass** railway, and by a line round the head of the Gulf of Venice to Trieste. The **Great** and **Little St Bernard**, the **Simplon**, and the **Splügen** passes are not crossed by railways, but the longest tunnel in the world is now being made under ~~the~~ Simplon Pass.

The mountainous nature of the peninsula is a difficulty in the way of free railway communication, but a line goes completely round the coast, and the Apennines are crossed in several places. Rome, Naples, and Florence are thus brought into communication with the towns of the northern plain, and Brindisi, whence the mails are despatched to India, is placed in connexion with the rest of Europe.

## XI. Trade and Commerce.

Italy, as the middle peninsula of southern Europe, is well situated to command the commerce of the Mediterranean. The west coast has many excellent harbours, and the east coast has several.

Since the opening of the Suez Canal, and the construction of railways over the Alps, there has been a great revival of trade with the east, by which Genoa and the other Italian ports have largely profited.

The chief trade is done with the United Kingdom, France, Austria, Germany, and the United States. and the principal ports are **Genoa**, **Naples**, **Leghorn**, **Messina**, **Palermo**, and **Venice**.

**Imports: Raw cotton, coal, grain, hides, timber, machinery, fish** (for food on fast days), **wool, sugar, tobacco**

**Exports: Silk, wine, olive oil, flax and hemp, fruit, sulphur, eggs, coral articles, marble, straw plait.**

## XII. Government.

The Government of Italy is a **limited monarchy**, legislation being enacted by the king and a parliament of two chambers.

ARMY AND NAVY.

Military service is compulsory. The **army** is one of the larger armies of Europe, and the **navy** is powerful and effective. The principal naval station is **Spezia**, on the Gulf of that name.

Education is compulsory, but is not strictly enforced. Half the population can neither read nor write.

Higher education is good, and there are numerous universities, many of which are ancient and famous.

EMIGRATION.

The poverty of the peasantry and the burden of taxation stimulate emigration. About 300,000 **emigrants** leave the country annually, going to other European countries, Brazil, Argentina and Uruguay, and the United States. Many of these emigrants return after having saved some money.

TOWNS—

**Rome** (512,000), the most famous city of the world, and, after centuries of ruin and decay, again the capital of united Italy, stands on low hills on the Tiber, 14 miles from the sea. The city has been much modernised since 1870, but the great cathedral church of St. Peter, the Vatican (the residence of the Pope). with its wonderful art treasures, and the magnificent remains of ancient Rome give the city a unique interest.

On the coast to the north-west is the artificial port of **Civita Vecchia** ("Old City").

**Naples** (544,000), the capital of Campania, and the largest city of Italy, is situated on the beautiful Bay of Naples. It is the second city of Italy and has its largest University. At the foot of Vesuvius, further down the bay, are the remains of **Herculaneum** and **Pompeii**, ancient Roman towns buried in the historic eruption at the beginning of the Christian era. **Capri**, the island residence of some of the early Roman emperors, lies off the southern arm of the bay.

**Milan** (492,000), the capital of Lombardy, occupies an important position north of the Po, where roads from the Alps and the Apennines converge. It is the chief railway centre, and the chief industrial town of Italy. It has a famous cathedral.

**Turin** (359,000), the handsome capital of Piedmont, is situated on the upper Po, at another meeting of the ways from the Alps and the Apennines It has important manufacturing industries and a flourishing university.

**Palermo** (292,000), the capital of Sicily, stands on the northern coast surrounded by fruit trees. It has a large export of lemons and oranges.

**Genoa** (237,000), the capital of Liguria, with a fine harbour on the Gulf of Genoa, is the first port of Italy. It has direct railway communication with France, with the west coast of the peninsula, and with the northern plain and Germany.

**Florence** (216,000), the capital of Tuscany and of Italy before 1870, stands on the Arno, south of the Apennines. It is famous for its beautiful buildings and art treasures. It manufactures silk and straw hats, and has various artistic industries.

**Venice** (157,000), "the Queen of the Adriatic," and in the middle ages the chief commercial city of the world, stands on islets in a lagoon on the west of the Gulf of Venice. It has still a considerable trade, and has famous industries of glass, mosaics, embroidery and lace, besides cotton and other modern industries. It has splendid buildings and art treasures.

**Bologna** (158,000) occupies an important position commanding the route from the peninsula to the northern plain. It has a famous university, and its sausages are equally famous.

**Messina** (156,000) stands on the Strait of Messina on the east coast of Sicily. It has a fine harbour.

**Catania** (134,000) stands under Etna in the middle of the east coast of Sicily. Further south is **Syracuse**, once the first city of the Greek world.

**Leghorn** (105,000), the port of Tuscany, with an artificial harbour, is the second port of Italy.

No other towns have 100,000 inhabitants, but **Padua**, **Verona**, **Ravenna**, **Modena**, **Pisa**, **Perugia**, **Ancona**, and **Parma** are historically interesting, as are also the smaller towns of **Pavia**, **Cremona**, **Siena**, and **Mantua**.

The mountainous island of **Sardinia** is rich in minerals and wheat. Its capital, **Cagliari**, has only local importance.

FOREIGN POSSESSIONS—

The foreign possessions of Italy consist of a strip of north-east Africa on the Red Sea, of which **Massowah** is the seat of government, and Italian **Somaliland**, another strip of north-east Africa on the Indian Ocean. The total area of these dependencies is about 200,000 square miles.

**San Marino**, the smallest republic in the world, occupies a mountain in the Northern Apennines not far from the Adriatic.

**Malta** and **Gozo**, south of Sicily, belong to the United Kingdom. They are rocky islands, with a thin but fertile soil, which produces excellent fruit and flowers. **Valetta** (62,000), on a splendid harbour, is the capital and a strong fortress and naval station. There are many fine buildings.

The Maltese speak a corrupt form of Arabic.

### QUESTIONS.

1 Describe accurately the geographical situation of Italy. How many degrees of latitude is it to the south of England and to the north of India? How does it lie with regard to the meridian passing through the Cape of Good Hope?

2. Name from the map the capes and inlets on the coast of Italy and its islands.

3. Draw a sketch map showing the mountain system of Italy. Mark also the courses of the Arno, the Tiber, and the Po and its principal tributaries. Insert the active volcanoes and the larger lakes.

4. Describe the Italian climate. What can we infer as to climate from the presence or absence of the olive?

5. What part of Italy is most thickly populated? How is this accounted for? Of what race are the Italians?

6. What are the chief food crops and fruits of Italy? Name the mineral products, and the most important industries. Where are the manufacturing industries mostly carried on?

7. How is Italy connected by land with the neighbouring countries of Europe? Look at the map, and say why Milan is so important as a centre of communications. Describe the Indian mail route from London to Brindisi.

8. Why is the situation of Italy of commercial value? What is meant by saying that Italy "turns its back on the Balkan Peninsula?"

9. What is the greatest export? Name other characteristic exports. Why does Italy import coal, timber, and fish?

10. What is the condition of the peasantry of Italy? To what countries do emigrants chiefly go?

11. Where and what are the Lipari Islands, Mantua, Como, San Marino, Malta, Stromboli, Mont Cenis, the Campagna, the Riviera, Elba, the Gran Sasso?

## SPAIN AND PORTUGAL.

### I. Situation and Size.

The Iberian Peninsula, which is occupied by the kingdoms of **Spain** and **Portugal**, is the extreme south-west of Europe.

It lies in much the same latitude as Italy, but does not extend so far north, being contained between the parallels of 36° and 44°

Its longitude is practically that of the British Isles, of which it lies due south.

The Peninsula is a pentagon in shape, with three long sides facing west, north, and east, and two short sides on the south, which meet on the Strait of Gibraltar.

Its area is 233,708 square miles, nearly twice that of the United Kingdom Spain occupies nearly five-sixths of the whole peninsula.

### II. Boundaries

North: the Bay of Biscay and France.

West: the Atlantic Ocean.

South: the Atlantic Ocean, the Straits of Gibraltar, and the Mediterranean.

**East**: the Mediterranean.

### III. Coasts

The coast is generally high and unbroken, with few good harbours

The coast of the north-west corner is an exception to its general character, being broken by numerous small indentations, called **rias**.

**Capes Tarifa** and **Roca**, the extreme south and west points, are likewise the extreme south and west points of Europe.

**Capes Finisterre** and **St. Vincent** mark the ends of the west coast

The **Balearic Islands** lie between the east coast and Sardinia.

### IV. Relief.

The great part of the Iberian Peninsula is a plateau sloping westward, with an average elevation of over 2000 feet.

A narrow strip of plain runs round the coast, which expands into lowlands of considerable area in the lower basins of the Guadalquiver and the Tagus.

The main plateau, or **Meseta,** is cut off in the north by the valley of the Ebro from the **Pyrenees,** and their continuation, the **Cantabrian Mountains.**

In the south, the valley of the Guadalquiver separates it from the lofty coast range of the **Sierra Nevada.**

The highest point in the Pyrenees is the **Pic d'Anethou** (11,170 feet) in the **Maladetta** group **Mulahacen** (11,780 feet) in the **Sierra Nevada,** is the highest mountain in Europe outside the Alps.

The central waterparting of the Peninsula starts from Cape Roca, north of Lisbon, runs across Portugal as the **Sierra da Estrella,** and across the Meseta as the **Sierra de Guadarrama.** It separates the basins of the Douro and Tagus.

The **Sierra Toledo** separates the basins of the Tagus and Guadiana

The **Sierra Morena,** overlooking the valley of the Guadalquiver, is merely the steep southern edge of the Meseta.

## V. Rivers.

The chief rivers are the **Tagus, Guadiana, Douro, Ebro,** and **Guadalquiver.**

The **Ebro** (470 miles) rises in the Cantabrian Mountains, and flows south-eastward to the Mediterranean. Its basin is the largest in the Peninsula

The other rivers mentioned rise on the Meseta, and flow westward to the Atlantic The **Guadalquiver** (374 miles) receives important tributaries from the south, which are fed in summer by the melting snows of the Sierra Nevada. Hence this river has a more constant volume than any of the others, and is the only one that is navigable to any distance from the sea.

The Iberian rivers, of which the Tagus (566 miles) is the longest, generally flow in deep and rocky channels, and are very low in summer, so that they are of little use either for navigation or irrigation.

## VI. Climate.

Owing to the altitude of the greater part of the Peninsula its climate is less genial than we should expect from its latitude, and compares unfavourably with that of France and Italy.

The **rain-bearing winds** are stopped by the highlands of the north and north-west coasts, which have a copious rainfall, and a **moist and mild** climate.

The rainfall of the Meseta is scanty, and the climate **extreme**, with very hot summers and very cold winters. At Madrid the temperature rises above 100° in summer, and falls far below the freezing point in winter.

The coastal lowlands of the east, south, and south-west have a Mediterranean climate, which becomes **sub-tropical** in the extreme south. Malaga on the south coast has the highest winter temperature in Europe

The contrasts of climate are shown in the following table :

| | Mean annual temperature | Hottest month. | Coldest month. | Annual rainfall |
|---|---|---|---|---|
| Corunna (north-west coast), | 55° 7 | 66°·1 | 47° 8 | 50″ (?) |
| Madrid (central plateau), | 55°·7 | 107°·0 | 13° 0 | 15½″ |
| Malaga (south coast), | 66°·9 | 81°·3 | 54°·0 | 20″ (?) |

## VII. Plants and Animals.

The vegetation shows the same contrasts as the climate. In the damp north and north-west the vegetation is that of central Europe. The Meseta is practically treeless. **Esparto grass** covers large areas, and in some parts the vegetation resembles that of the steppes. Evergreen **aromatic shrubs** are characteristic of the south west of the plateau.

The extreme south-east is the only part of Europe where the **date palm** ripens its fruit. The **cork** tree is common in Portugal.

The **olive, orange.** and **Spanish chestnut** are characteristic of the coastlands, and on the sub tropical south coast the **sugar-cane,** the **plantain,** and other tropical fruits flourish.

The **wolf, ibex, wild boar, deer,** and many small wild animals are common. **Birds of prey, game birds,** and other birds in great variety are numerous. In the south **wild camels and flamingoes** suggest the neighbourhood of Africa.

## VIII. People.

POPULATION—

The population of Spain is about 18 millions, or 91 to the square mile ; that of Portugal about 5 millions, or 141 to the square mile.

**Population is densest in the coastlands, and on the margins of the plateau.**

**RACES, LANGUAGES, AND RELIGION**—

The inhabitants of the Peninsula represent a great mixture of races. The **Keltic** element predominates, but the influences of the **Roman**, **Teutonic**, and **Moorish** (African) invasions, especially the last, are plain.

Both the **Spanish** and **Portuguese** languages are descended from the **Latin**, but they contain many words of **Arabic** origin. Place names are often Arabic (*e.g.* Mulahacen = Mulai Hassan).

In **Catalonia** and **Valencia**, on the east coast, the language is akin to that of southern France (Provençal).

The **Basques**, at the western end of the Pyrenees, speak a language which is unlike any other in Europe, and possibly represents the language of the original **non-Aryan** inhabitants.

The people of the Peninsula are almost entirely **Roman Catholics**. They are very superstitious and bigoted.

The great geographical diversity of the Peninsula partly explains the differences in character, manners, and customs seen in different parts of the country. The **Castilians** of the Meseta are proud and lazy; the **Andalusians** of the south are lively and pleasure-loving; the **Galicians** and **Asturians** of the north coast industrious and persevering; while the **Catalonians** of the east coast are the most busy and enterprising, as are also, in a less degree, the **Portuguese**.

The geographical isolation of Spain from the rest of Europe by the Pyrenees, and by a sea that washes an inhospitable coast with few good harbours, may account for Spanish pride and for the backward civilisation of the people generally; while their long struggle with Muhammadan invaders may account for their religious intolerance. At any rate the Peninsula has fallen behind the rest of Europe, and its people, scanty and poverty-stricken considering the capacity of the soil, seem to lack, as a whole, the energy and enterprise that are essential to progress.

## IX. Products and Industries.

**MINERALS**—

The Iberian Peninsula has been famous from the earliest times for its mineral wealth The principal minerals, which occur chiefly on the margins of the plateau, are **copper, iron, quicksilver, lead, silver, zinc,** and **coal.**

The principal coalfields are in the north, and here the iron ore is chiefly worked. The copper mines on the **Rio Tinto** are the largest in the world. The quicksilver mines of **Almaden** are famous.

Difficulties of communication, and the native want of enterprise, have left large stores of mineral wealth untouched. As it is, most of the mines are worked by foreign capital, and much ore, especially copper ore, is sent to **Swansea** to be smelted.

AGRICULTURAL PRODUCTS—

More than half the land is uncultivated, but the soil is naturally fertile, and where irrigation is practised is extraordinarily productive.

**Wheat, maize,** and the **millets** are the chief food crops.

**Chick-peas** and other leguminous crops, and **vegetables** of all kinds are also grown for food. The **olive, vine,** and **orange** are largely cultivated, and, in the north, the **apple** and other fruit trees of central Europe.

The wide pastures of the Meseta feed large flocks of **sheep,** once famous for their wool (**merino**).

In Andalusia **horses,** and **bulls** of a fierce breed used in the bull fights, are reared. The **mules** and **asses** are the best in the world, and they are the common beasts of burden

INDUSTRIES—

Industries are most developed in Catalonia and on the northern coast, near the iron and coal supply. Some **machinery** is made: **cotton** and other **textiles** are manufactured; and **cork-cutting,** the manufacture of **tobacco,** Cordorvan **leather,** and esparto grass **baskets, cordage,** and **paper** are characteristic.

**Port,** a red wine from Portugal, and **sherry,** a white wine from southern Spain, are famous.

The **sardine** and **tunny** fisheries are very valuable.

## X. Communications.

Except near the sea the rivers of the Peninsula are practically useless as waterways.

Roads and railways have to overcome great engineering difficulties in ascending from the coast plains to the high interior.

**Madrid** is the railway centre of the country, and is directly connected with Cordoba, Seville, and Cadiz, by the valley of the Guadalquiver, with **Lisbon,** the centre of the Portuguese railway system by the valley of the Tagus, and with Carthegena, Valencia, Barcelona, Santander, and other coast towns. No railway crosses the Pyrenees, but lines running round both ends of the chain connect the Spanish railways with those of France.

## XI. Commerce.

The external trade of Spain is small, and is mostly carried on in foreign ships, with France and the United Kingdom.

The chief ports are **Barcelona** and **Cadiz**. **Bilbao**, on the north coast, exports great quantities of iron-ore, and **Huelva**, on the south coast, is the port of the Rio Tinto copper mines.

Portugal, with the fine harbours of **Lisbon** and **Oporto**, is better situated for trade, which is chiefly carried on with the United Kingdom and France

**Exports: Spain** chiefly exports **wine** and **minerals**; also **fruit, olive oil, cork,** and **silk.**

**Portugal** exports **wines, cork, fish, copper,** and **fruit.**

**Imports: Spain** imports **cotton, machinery, coal, wood, sugar,** and **fish: Portugal, cereals, cotton, wool, machinery, iron, fish, coal, sugar.**

## XII. Government and Towns.

Both Spain and Portugal are **limited monarchies**, and in both the parliament is called the **Cortes**

**Spain**, as the larger country (197,670 square miles), has a larger army and navy than **Portugal** (36,038 square miles), but neither country is strong, either by land or sea These areas include the various islands conventionally included in the two countries

**Education** is poor In both countries most of the people are illiterate, and higher education is also backward.

TOWNS OF SPAIN—

**Madrid** (512,000) is the capital, and the business centre of the country. It is situated on a bare plain, and has an extreme and unpleasant climate In the mountains to the north-west is the great palace-monastery of the **Escorial**.

On the Tagus, south of Madrid, is **Toledo**, a former capital, and once famous for its sword blades.

**Barcelona** (509,500), the capital of Catalonia in the north-east, is the chief port and manufacturing town of Spain. It is the centre of a busy manufacturing district. The ancient port of **Tarragona**, to the south, has declined in importance.

**Valencia** (204,000), situated on the richest part of the east coast, exports silk and fruit. **Alicante**, further down the coast, once known for its wine, is a rising port

**Seville** (146,000), the capital of Andalusia, is an important port and manufacturing town on the Guadalquiver It has beautiful buildings and art treasures, and is notorious for its bull fights.

**Cordoba** (57,000), higher up the Guadalquiver, the chief Moorish town of the Middle Ages, and formerly famous for its leather, has a splendid cathedral, which was once a mosque.

**Malaga** (125,000), on the south coast, exports wine, and fresh and dried fruit (raisins).

**Murcia** (108,000), the chief town of the dry and hot south-east, manufactures silk. To the south is **Carthegena** (86,000), the chief naval port of spain. South-west is **Lorca** (59,000), an ancient town.

**Saragossa** (98,000), the ancient Caesarea Augusta, is the largest town in the Ebro basin. Its cathedral is an object of pilgrimage from every part of Spain. The town has sustained some famous sieges.

**Granada** (75,000), in the highlands of Andalusia, is famous for the **Alhambra** and other magnificent specimens of Moorish architecture.

**Cadiz** (70,000), near the mouth of the Guadalquiver, was founded by the Phoenicians, and is one of the most ancient towns in the world. It exports the famous wine of **Jerez** (62,000), which gives the name **sherry** to the wine of the district.

**Valladolid** (68,000), the capital of Old Castille, and once the capital of Spain, is in the centre of the Douro basin.

**Bilbao** (74,000), on the north coast, is a thriving manufacturing town and mineral port.

**Oviedo** is the centre of the northern coalfields, and **Santander**, **Ferrol**, and **Corunna** are northern ports. **Salamanca** has a university which was famous in the Middle Ages; and **Badajos**, **Talavera**, **Vittoria**, **Ciudad Real**, and **Burgos** are known in connection with the Peninsular War.

The **Balearic Islands**, consisting of five islands, of which the largest are **Majorca** and **Minorca**, are reckoned as a province of Spain. **Palma** (62,500), in Majorca, is the largest town. It has some fine buildings, and exports oranges and other fruit.

The **Canary Islands**, a group of islands lying off the north-west coast of Africa, are also counted as a province of Spain. The largest is **Teneriffe**, containing the famous volcanic Peak of Teneriffe, 12,190 feet.

**Ceuta**, opposite Gibraltar, and the other **Presidios** on the Morocco coast, are also considered part of Spain.

The **foreign possessions** of Spain are now insignificant. A strip of **West Africa**, **Fernando Po**, and some other islands are all that remain.

**Gibraltar**, a rocky promontory at the east of the most southerly part of Spain, belongs to the United Kingdom. It is a great naval station, and is very strongly fortified.

**Andorra** is a small republic in the Pyrenees.

TOWNS OF PORTUGAL—

**Lisbon** (301,000), the capital, is splendidly situated on an expansion of the Tagus, which forms an admirable harbour. It has a considerable trade with South America and West Africa.

**Oporto** (139,000), at the mouth of the Douro, is the second town and port of the country, with a great wine trade

No other town has 30,000 inhabitants. **Coimbra** has the only university. **Setubal**, at the head of the Gulf of Setubal, the third port, exports sardines, oranges, corks, and wine.

The **Azores**, or **Western Islands**, in the Atlantic far to the west of Portugal, and **Madeira**, the largest island of another group lying north of the Canaries, are included in Portugal.

**Funchal**, the capital of Madeira, exports a famous wine known as **Madeira**. The climate of the island is particularly mild and genial, and very favourable for invalids.

The **foreign possessions** of Portugal are still considerable. The most valuable are **Angola**, in West Africa, and Portuguese **East Africa**, of which the capital is **Lourenço Marques** The **Cape Verde** and some other African islands, part of **Guinea**, a few square miles in **India**, **Macao** in China, and part of **Timor** in the Malay Archipelago, also belong to Portugal.

## QUESTIONS.

1. Describe the situation of the Iberian Peninsula. Name from the map the chief openings and projections on each of its five sides.

2. What continent does the Peninsula most resemble in its physical configuration? Describe the Meseta.

3. Describe the courses of the larger rivers of the Peninsula. Find from the map what mountain ranges form the water partings between their basins.

4. What three chief varieties of climate are found? Account for them. Mention the vegetation characteristic of each climate.

5. How has the language of Spain been influenced by the various ruling races that have occupied the Peninsula? How does the population compare with that of the other larger countries of Europe?

6. What are the mineral products of the Peninsula? Mention some characteristic industries. What are the chief food crops?

7. What special difficulties interfere with free communication with foreign countries and within the Peninsula itself?

8. What is the nature of the exports from Spain and Portugal? Why does Portugal import wool, and Spain not? Why do both countries import fish?

9. What do you know of Madrid, Lisbon, Cadiz, Barcelona, Granada, Tenerife, Seville, Coimbra, Malaga, Saragossa, Oviedo, Salamanca, Badajos, Palma, Bilbao, Funchal, Oporto, Andorra, Ceuta?

10. "Africa begins at the Pyrenees." Mention geographical facts in support of this statement.

## RUSSIA.

### I. Situation and Size.

Russia in Europe, which occupies the whole of eastern Europe from the Arctic Ocean to the Black Sea, is the western portion of the **Russian Empire**, which extends, without any real geographical break, over the great plain of northern Eurasia, from the Baltic Sea to the Pacific Ocean.

The Scandinavian Peninsula is the only part of northern Eurasia not included within the Empire.

The Russian Empire extends more than 170 degrees of longitude (representing more than eleven hours' difference of time), of which European Russia covers nearly sixty degrees. It comes furthest west in Poland, where it reaches long. 17½° E., the longitude of the "heel" of Italy.

In the north the mainland of European Russia reaches lat. 70° N., and Novaya Zemlya touches lat. 76° N., seventeen degrees from the pole. The most southerly point of the Crimea is lat. 44° 22′ N., the latitude of Genoa. In Asia the Empire extends ten degrees further south.

The Russian Empire occupies one-sixth of the land surface of the globe, having an **area** of more than 8½ million square miles. The area of **Russia in Europe** is almost two million square miles, more than that of all other European countries taken together.

### II. Boundaries.

North: the Arctic Ocean.

West: the Baltic Sea, Germany, Austria-Hungary, and Roumania.

South. Roumania, the Black Sea, the Manych Depression, and the Caspian Sea.

East: those of Europe.

The boundaries of Russia in Europe on the west and east are mostly arbitrary lines; but the Vistula and Pruth in the west, and the Kara and the Ural in the east, mark the boundary for short distances.

The **north coast** extends from the **Kara River** to the **Varanger Fiord** between Russian Lapland and Norway. West of the **Kanin Peninsula** opens the **White Sea**, with its three gulfs. The **Kola Peninsula**, between the White Sea and the Arctic Ocean, forms the remainder of north-west Russia.

The **west coast** on the Baltic borders in the north the **Gulf of Bothnia**. The **Gulf of Finland** makes a long indentation, running from west to east in the middle of the coast, and further south is the **Gulf of Riga**.

The **Black Sea coast** in the south is indented by the **Bay of Odessa** and the **Sea of Azov**, with the **Crimean Peninsula** between them. The narrow **Strait of Kertch** connects the Sea of Azov with the Black Sea.

## IV. Relief.

The relief of Russia is very simple. It is a vast plain, rising into a low plateau in central Russia. West of the Dnieper the land again rises towards the Carpathians, and there is another tract of higher land west of the middle Volga. Parts of Finland and Russian Lapland also rise above 600 feet.

The **Valdai Hills** in the north of the central plateau just exceed 1100 feet.

The **Ural Mountains** form no real barrier between east and west. They rise above 5000 feet in the north and south, but in the middle, where the railway crosses them, the range is scarcely noticeable.

The part of European Russia which forms the north-west seaboard of the Caspian belongs to the **Aralo-Caspian depression**—the largest area of land below sea-level on the globe.

## V. Rivers and Lakes.

The great rivers of Russia are the **Volga, Don, Dnieper, Duna** or **Western Dvina, Northern Dvina,** and **Pechora.**

The **Volga** (2300 miles) rises in the Valdai Plateau, in the north of central Russia, at a height of only 665 feet above the sea. It is the largest river of Europe, and drains an area greater than the combined areas of France, Germany, and the British Isles. It enters the Caspian Sea by a large delta.

The **Kama** (1170 miles), the largest tributary of the Volga, rises in eastern Russia, and brings down most of the drainage of the central and southern Urals. The **Oka** is another large tributary.

The **Don** (1153 miles) rises in central Russia, and flows into the Sea of Azov.

The **Dnieper** (1334 miles) rises near the Volga, and flows to the Bay of Odessa, in the Black Sea.

The **Duna**, or **Western Dvina** (625 miles), rises on the Valdai Plateau near the Volga, and flows into the Gulf of Riga, in the Baltic Sea.

The **Dvina** (1,100 miles) rises in the north of Russia, and enters the White Sea at Archangel.

The **Pechora** (980 miles) rises in the Ural Mountains, and enters the Arctic Ocean by a delta within the Arctic Circle.

The **Vistula** enters Russia from Austria as a navigable river, and flows across Poland into Germany.

The **Niemen** drains western Russia between the basins of the Vistula and Duna. In its lower course in Germany it is called the **Memel.**

The **Dniester** drains the extreme south-west.

The **Ural** rises in European Russia, but the whole of its lower course from below Orenburg to the Caspian is in Russian Turkestan.

LAKES—

The lake region comprises southern Finland and the adjoining parts of Russia around the Gulf of Finland. Finland is crowded with lakes, most of which communicate with one another. **Ladoga,** partly in Finland and partly in Russia proper, is the largest lake in Europe, and the fifth lake of the empire. It receives the waters of the **Saima,** the largest Finnish lake. Next to Ladoga, **Onega,** further north-west, and **Peipus,** south of the Gulf of Finland, are the largest lakes of European Russia.

## VI. Climate.

The simplicity of the relief of Russia makes its climate equally simple. There are no elevations to prevent the cold winds from the Arctic Ocean blowing over the whole of the country. Further, lines of highlands running west and east stop the warm winds from the tropics from reaching Russia. Hence differences of climate in different parts of the country correspond directly with differences of geographical situation.

The mean temperature is lower as we go from south to north; also, the atmosphere is drier as we go from west to east, and, in consequence, the climate, which is in general of the **extreme** or **continental** type, is most extreme in the east. The rainfall exceeds 20 inches in the year in very few places; in some places it is as little as six inches.

The winters are long and cold and the summers short and hot. Snow covers the ground for months in winter, and rivers and seas are frozen for longer or shorter periods. The Black Sea and the Sea of Azov are only frozen occasionally.

## VII. Plants and Animals.

The vegetation zones of Russia are those of Europe as a whole, from the **tundra** zone of the Arctic seaboard to the southern region of **maize** and the **vine.** In the south of the Crimea the **olive** flourishes, and **cotton** can be grown. Most of northern Russia is still covered with dense **evergreen forest.** Middle Russia, the region of **deciduous trees,** has been cleared of forest, and is now mainly agricultural.

Further south the **Black Earth** region stretches across the country from the Dnieper to the Urals, and makes Russia one of the great **wheat**-producing countries of the world.

The Steppes around the Caspian Sea are a barren region, covered with grass and flowers for a few short weeks in early summer.

Owing to the increasing severity of the climate from west to east, the lines marking out the zones of vegetation run from north-west to south-east. Wheat, for example, grows much further north in Finland than it does in eastern Russia.

ANIMALS—

The **polar bear**, the **seal**, and **reindeer** are found within the Arctic Circle, and in the forest region the **bear, wolf, stag, fox, hare**, are common, as well as **game birds**.

The **sturgeon** is characteristic of the southern rivers, and **cod, salmon**, and **trout** abound in the northern rivers and seas.

## VIII. People.

POPULATION—

The population of European Russia is 104 millions, 53 to the square mile; while the population of the whole empire is 129 millions, or 15 to the square mile.

The most densely populated parts of Russia are **Poland**, and a strip of Russia proper extending across the Black Earth region from Moscow to the Dnieper. Here the density of population is 100 and upwards to the square mile.

RACES AND LANGUAGES—

The great bulk of the people are **Russian Slavs**: Great Russians, Little Russians, and White Russians, speaking different dialects. Other Slavs are the **Poles** and **Lithuanians** in the west.

The **Finns** are non-Aryans; so also are the **Samoyeds** and **Lapps** of the tundras, and the **Tatars** and **Kalmuks** (Mongolians) of the east and south. **Jews** are numerous in the south-west.

RELIGIONS—

The established religion is the **Orthodox Greek Church**.

The Finns are mostly **Lutheran Protestants**, and the Poles **Roman Catholics** There are some **Muhammadans**, and the Samoyeds in the north-east are **heathens**.

## IX. Products and Industries.

MINERALS—

The most important mining district of European Russia is in the central Urals.

**Gold, silver, copper, iron, coal**, and **salt** are found. There are also **coalfields** in central and southern Russia.

AGRICULTURAL PRODUCTS—

Nine-tenths of the people are agriculturists.

The chief crops are **wheat, rye, flax** and **hemp, potatoes, beet-root,** and **tobacco. Fruit trees** are numerous in the south.

INDUSTRIES—

Until lately Russia imported nearly all its manufactured goods, but there are now considerable manufacturing industries in Poland and the mining districts, and at St. Petersburg and Moscow.

Most of the manufactures are carried on in the workers' homes, not in factories, as in other parts of Europe

The **sturgeon** fisheries of the Volga and other rivers of southern Russia are very valuable, **caviare** and **isinglass** being prepared from certain parts of the fish.

## X. Communications.

**Russia** has fine natural waterways in its rivers. Rising, as so many of them do, near one another, it has been easy to connect them by canals, and thus provide through waterways from one coast to another.

The roads are bad, but when snow covers the ground, the sledge is in general use, and communication is easy.

For its size Russia is not well off for railways. The chief railway centre is Moscow, where lines from every part of the empire converge

The Great Siberian Railway begins at **Samara**, on the Volga, and passing through **Ufa** and over the Urals, enters Siberia near the Tobol.

Its route through Siberia is past **Omsk, Krasnoyarsk, Irkutsk,** and **Chita** to its termini on the Pacific at **Vladivostok** and on the Pe-chi-li Gulf at **Port-Arthur.**

## XI. Trade and Commerce.

The **internal** trade of Russia is largely carried on at great **fairs.** The one held annually at Nizhniy Novgorod is the largest in the world.

The **foreign trade,** which is mostly carried on by foreign ships, is chiefly with Germany and the United Kingdom.

The principal **ports** are **Odessa, St. Petersburg, Riga,** and **Nikolayev.**

**Exports: grain, flax** and **hemp, wood, oil seeds, dairy produce, and eggs.**

**Imports: raw cotton, metals, metal goods,** and **machinery, wool, tea, leather** and **hides, textiles.**

## XII. Government.

The Emperor or **Tsar of all the Russias** is an irresponsible autocrat He is the temporal and spiritual head of all his subjects, and the imperial **ukases** or decrees have the force of law. He declares war and makes peace in his own name.

Certain dignitaries of the state are called into council, but they have no legal standing independent of the will of the Tsar, and the ministers in charge of all government departments are responsible to him alone.

ARMY AND NAVY—

The **army** is the largest in the world, and the **navy** is next to that of France. Military service is universal and compulsory.

EDUCATION—

Elementary education is much neglected, and the masses are ignorant and superstitious. Higher education is in a better state, but the free expression of opinion on political matters is not allowed There is a strict press censorship of all publications, and newspapers may only be sold to registered subscribers.

EMIGRATION—

The Russians are willing emigrants, and of late years there has been a large emigration, especially of Jews, to the **United States** There is also a large and increasing emigration to **Siberia.**

## XIII. Towns.

**St. Petersburg** (1,267,000), on the broad and deep Neva, has been the capital of Russia since the time of Peter the Great. It is a city of wide streets, high and regularly built houses, and many splendid government buildings and palaces; but the climate is bad, and the site unhealthy. It is the educational and literary capital of the empire, as well as its second port, and a growing manufacturing town.

Twenty miles west, on an island in the Gulf of Finland, is the strong fortress and naval port of **Kronstadt.**

**Moscow** (989,000), the ancient capital in the middle of Russia, surrounds the **Kremlin**, a cluster of palaces, churches, and monasteries, whose quaint architecture and brightly painted domes make it unique in Europe. Moscow is an important industrial and manufacturing town, and the centre of the Russian book trade.

**Warsaw** (638,000), on the Vistula, the capital of Poland, is an industrial centre of growing importance, and the meeting place of the railways from Western Europe and Russia.

**Odessa** (405,000), the first port of the empire, is a handsome town on the north-west coast of the Black Sea. It has many foreign merchants. **Kherson** is a smaller port near the mouth of the Dnieper.

**Lodz** (315,000), a long street of houses and factories in Poland, has grown rapidly through its cotton industry.

**Riga** (256,000), on the mouth of the Düna, at the head of the Gulf of Riga, has a great trade with the United Kingdom, exporting hemp, flax, grain, tallow, and timber, and importing British produce. The harbour is frozen for several months in the year.

**Kiev** (247,000), the largest town of the **Ukraine** or ancient "Border" province, stands in the centre of the basin of the Dnieper, and is called the "Holy Town" from its many and famous sacred buildings. It has sugar and other manufactures

**Kharkov** (175,000), between the Dnieper and the Don, is a commercial and industrial town, with important fairs.

**Vilna** (160,000), the ancient capital of Lithuania, with many historic buildings, stands on a tributary of the Niemen in western Russia.

**Saratov** (137,000), the largest town of the lower Volga, is the centre of German industrial colonies.

**Kazan** (132,000), an industrial town near the Volga, above its junction with the Kama, was once a Tatar capital.

**Ekaterinoslav** (121,000) is a modern iron and mining centre on the lower Dnieper.

**Rostov** (120,000), near the mouth of the Don, is a port with a busy coasting trade.

**Astrakhan** (113,000), a former Tatar fortress in the Volga delta, still has many Muhammadan inhabitants. It is a port for the Volga and the Caspian.

**Tula** (111,000), on the railway between Kharkov and Moscow, and near coal mines, makes rifles, cutlery, machinery, and all kinds of iron work, especially the **samovars** for making tea which are found in every Russian house.

**Kishinev** (109,000), the capital of Bessarabia in the extreme south-west of Russia, is a great grain mart.

No other town has 100,000 inhabitants.

**Nizhniy Novgorod** (95,000), at the junction of the Volga and the Oka, is famous for its fair, at which western goods are exchanged for the produce of Siberia, Caucasia, and the extreme east.

**Nikolayev** (92,000) is the chief naval station on the Black Sea.

**Orenburg** (73,000) stands on the right bank of the Ural, at the edge of the Kirghiz steppe.

**Sevastopol**, in the Crimea, is famous for its siege by the English and French in 1854.

**Perm** and **Ekaterinburg** are mining centres, connected by a railway which crosses the Urals. **Archangel**, at the mouth of the Northern Dvina, is the port of the White Sea, and in the summer months, when free from ice, exports flax and hemp, timber, tar, and tallow.

**Helsingfors**, the capital of Finland, and a port on the Gulf of Finland, is a literary and scientific town, with a fine library and observatories.

The rest of the Russian Empire has been described under Asia.

### QUESTIONS.

1. Describe the situation and size of Russia in Europe (1) with regard to other European countries, and (2) with regard to the rest of the Russian Empire. Give the natural boundaries of the Empire.

2. What seas wash the coasts of Russia? Name from the map the most marked projections and indentations How does Russia compare with the rest of Europe as regards extent of coast line?

3. Where is the Russian plain lowest? Where does it rise above 600 feet? What part of the Urals is in Europe?

4. Describe the courses of the great rivers of Russia, arranging them according to the seas to which they flow. Where is the great lake region, and give the position of the principal lakes?

5. What is the general character of the Russian climate? How is it that it varies so little except in degree of severity? Name from west to east the highlands which cut off from the whole of the empire the warm winds from the tropics.

6 Describe the vegetation of the different natural regions of Russia.

7. What parts of Russia are most densely populated? Give reasons to account for the greater population of these parts of the country. What are the principal non-Russian elements of the population?

8 Name the mineral and agricultural products of Russia. Which is the most fertile part of the country? What fish is specially characteristic of the southern rivers, and what products are obtained from it?

9. What through waterways are provided by canals connecting the Dnieper with the Duna, and the Volga with the Neva?

10. What is the importance of Moscow and Warsaw as railway centres? Describe the route taken by the Great Siberian Railway, and mention the principal towns through which it passes both in Europe and Asia.

11. What is the greatest export from Russia? Mention other exports, and the chief imports.

12. Describe the situation, and state anything noteworthy of the

following: Lodz, Tula, Kiev, Perm, Nizhniy Novgorod, Vilna, Helsingfors, Astrakhan, Riga, Orenburg, Samara.

13. Describe the three largest towns of the empire.

14. What time is it at Petropavlovsk in Kamchatka (about 160° E.) when it is noon in St. Petersburg (about 30° E.)?

## EXAMINATION PAPERS ON EUROPE.

### I.

1. Draw a sketch-map of Europe, and mark on it the courses of the Tagus, Rhone, Weser, Elbe, Po, and Volga; the Alps, the Jura, and the Carpathians; and the following places: Marseilles, Florence, Oporto, Frankfurt, Hamburg, Prague, Budapest, Odessa, Archangel.

2. Enumerate the chief islands of the Mediterranean, describing their position as accurately as possible, and stating to what Power each belongs Mention the largest town in each, and anything noteworthy about it.

3. Describe the course of the Rhine, naming the countries through or between which it passes, and, in order from source to mouth, its chief tributaries, and the principal towns on its banks

4. What are the chief industries of Swansea. Coventry, Leicester, Northampton, and Nottingham?

Name the chief seats in Great Britain of woollen cloth manufacture and of iron-shipbuilding, and the ports trading mainly with the continent of Europe.

5. Distinguish between an Empire, a Kingdom, and a Republic, and assign to its proper class each of the countries of Europe. What are the Great Powers?

6. What and where are the Dvina, the Chechs, the Tyrol, Bilbao, the Dogger Bank, St. Etienne, the Kalmuks, the Basques, Capri, Meissen, Elsinore, the Alhambra?

### II.

1. Draw a map of Great Britain, and mark on it (1) the main water-partings, (2) the rivers entering the sea between Buchan Ness and the North Foreland, (3) the principal ports, and (4) the towns with more than 250,000 inhabitants.

2. Trace the course of the Danube, naming in order the chief tributaries, and the principal towns by which it passes. What states does it flow through or between?

3. Compare the mountain systems of the Iberian and Balkan Peninsulas, and their influence upon climate.

4. Draw a sketch-map of Italy, including Sicily and Sardinia. Trace by a dotted line the inland frontiers, and show the position of Mount Etna, the Riviera, Lake Garda, Capes Passaro and Spartivento. Trace the courses of the Tiber and the Arno, and mark

Brindisi, Milan, Ancona, Palermo, Leghorn, Mantua, Turin, Messina, and Venice.

5. What parts of what countries are important in connection with the following industries: silk weaving, cotton spinning, butter making, straw plaiting, steel working, fruit drying, and wheat growing. In each case give a reason to explain the connection of the particular industry with the particular locality.

6. What and where are the following: the Vosges, the Schwarzwald, the Auvergne, the Sierra Morena, the Valdai Hills, the Erz Gebirge, the Guadiana, the Ticino, the Don, the Vardar, the Strait of Messina, the Gulf of Riga, the Sound, the Iron Gates, the Dobrudscha or Dobruja?

## III.

1. Draw a sketch-map of Europe and insert all the capitals; likewise Belgrade, Cracow, Fiume, Kiev, Orenburg, Malaga; Lakes Balaton, Constance, Maggiore, and Ladoga; the Apennines, the Cevennes, and the Balkans; the courses of the Loire, the Dnieper, and the Vistula; and the railway route from Calais to Constantinople.

2. (1) Name and locate the highest summits in England, Norway, and Austria, and give their heights above sea-level.
   (2) Compare, as regards average density of population, England, Italy, France, and Germany, and give some account of the condition of the people in each country.
   (3) Give the chief causes of the differences in climate of Lisbon and Moscow.

3. Point out the natural advantages of Europe for maritime commerce among its own states and with other parts of the world.

4. What are the chief natural products of Denmark, France, and Austria-Hungary?

5. Name the five largest states of the German Empire, the principal towns and industries of each, and the general character of the railway system.

6. What and where are Polders, the Campagna, Zante, Spithead, the Landes, Cork, the Ukraine, the Downs, Varanger Fiord, Salonica, Bergen, Lyons, Antwerp, Peipus, the Crimea?

# AUSTRALASIA.

## I. General Description and Extent.

THIS division of the globe is the world of islands which extends from the south-east of Asia more than half-way across the Pacific Ocean. The largest islands are crowded together between Asia and Australia Further east, in the **South Seas,** the tract of ocean enclosed by the tropics and the meridians of 150° E. and 120° W, the islands are smaller, and the archipelagoes more scattered, and finally, a belt of the Pacific about 3000 miles across, with scarcely an island, intervenes between the eastern limits of Australasia and the western shores of South America. The Indian Ocean bounds Australasia on the west.

Quite shallow seas separate the western islands of the Malay Archipelago from one another and from Asia, and equally shallow seas separate Australia from New Guinea. There is no doubt that Asia once extended much further south-east, and that Australia formerly extended much further north. Hence the name **Australasia,**[1] which suggests the geographical relations of this division of the globe with Asia, as well as the name of its largest component, is preferable to **Oceania**, which is sometimes used.

Australia is too large to have the usual characters of an island, and is commonly regarded as a continent—not as the largest island in the world.

Australasia presents a remarkable variety of natural features. Its islands range from some of the largest in the world, with navigable rivers, and mountains rising higher than Mont Blanc, to coral atolls surrounding lagoons less than a mile across, and rising only a few feet above the sea. In tropical Malaysia we have islands of unsurpassed fertility, crowded with plant and animal life, and dominated by the most tremendous array of active volcanoes in the world; while, on some

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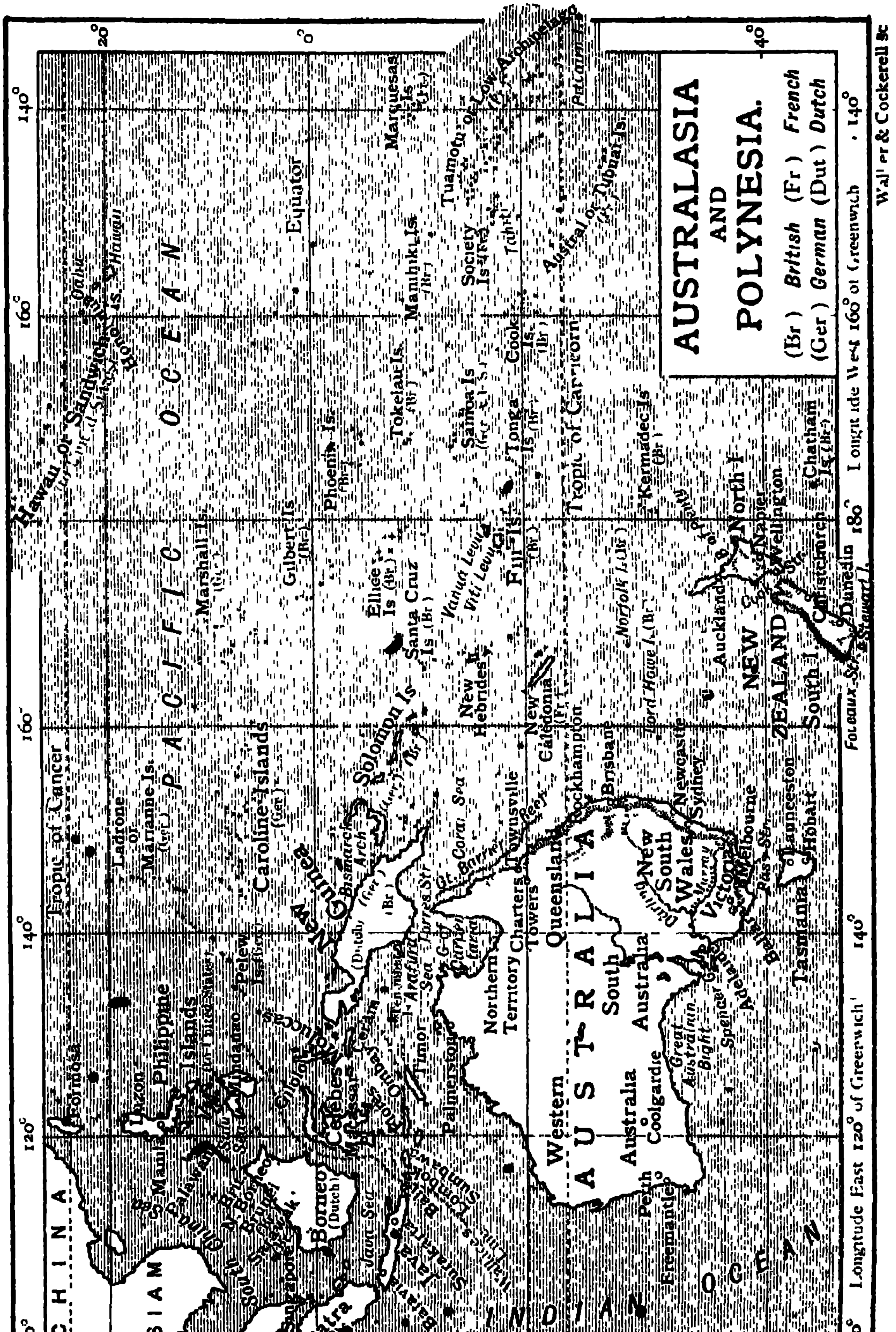
[1] = Southern Asia.



AUSTRALASIA AND POLYNESIA.

of the islets of the Pacific both plant and animal life are of the scantiest description.

> Australasia, though the actual area of its land is only a little more than four millions of square miles, or somewhat more than that of Europe, extends over a greater portion of the earth's surface than any other division of the globe.
>
> From Sumatra to the Marquesas Islands is 125 degrees of longitude, more than one-third of the earth's circumference, and from Hawaii to New Zealand is 70 degrees of latitude.

## II. Divisions.

Australasia has six divisions.

1. **Malaysia** or the **Malay Archipelago**, which comprises the islands immediately south-east of Asia as far as New Guinea.
2. **Melanesia,**[1] comprising the chain of islands from New Guinea to the Fiji Islands.
3. **Australia** and **Tasmania.**
4. **New Zealand.**
5. **Polynesia,**[2] the outer island groups of the Pacific, extending from Hawaii or the Sandwich Islands to the Tonga Islands and the archipelagoes east of them.
6. **Micronesia,**[3] the archipelagoes to the north of Melanesia.

## III. Climate, Plants, and Animals.

The greater part of Australasia lies between the tropics, and the equator passes through the largest islands of Malaysia Only the southern half of Australia and New Zealand are in the south temperate zone. Hence the climate is, for the most part equable, humid, and hot,—typically oceanic.

Australia, on the other hand, suffers from want of moisture, and the interior is one of the most arid regions in the world, with great extremes of heat.

> As regards plants and animals most of Australasia belongs to a region of its own. (See Introduction.) The islands nearest Asia have a plant and animal life akin to that of south-eastern Asia, but further east, on the other side of Wallace's line, both plants and animals become more and more Australian.

## IV. People.

**POPULATION—**

The total population is estimated at about 52 millions.

> Malaysia and some of the smaller archipelagoes are well populated, while Australia has not two inhabitants to the square mile.

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[1] The Islands of the Blacks. [2] Many Islands. [3] Little Islands.

RACES AND LANGUAGES—

Malaysia is the home of the true **Malay** race, a branch of the Mongolian or Yellow race.

The **Polynesians**, who speak languages akin to Malay, were formerly believed to be of the same race, but they are now considered to belong to the Caucasian or White family.

The **Papuans** of east Malaysia and New Guinea, the inhabitants of the other Melanesian islands, and the Australian aborigines, are branches of the Negro or Black race.

Various other races are represented: the **Dutch** in Malaysia, the **Spanish** in the Philippines, and the **Chinese** nearly everywhere Australia and New Zealand are mainly inhabited by colonists of **British** descent.

All the native languages of Australasia are varieties of one great family—the **Malayo-Polynesian** or **Oceanic** family.

RELIGIONS—

Most of the Malays are nominally **Muhammadans** Except where they have been Christianised, the natives of the rest of Australasia are **pagans**. Cannibalism was formerly prevalent.

The curious custom of **tabu** or **tapu**, by which persons and things are withdrawn from ordinary use, is specially characteristic of Australasia. It was often made the means of oppression and tyranny.

## MALAYSIA OR THE MALAY ARCHIPELAGO.

### I. Situation, Extent, and Divisions.

THIS division of Australasia extends from long. 95° E., the longitude of the Irawadi Delta, to the west coast of New Guinea.

It lies on both sides of the equator, which passes through Sumatra, Borneo, Celebes, and the Moluccas

The Strait of Malacca and the China Sea separate it from Asia.

The total area is nearly 800,000 square miles, about the same as that of the Indo-China Peninsula.

**Wallace's Line**, drawn between the islands of Bali and Lombok, and east of Borneo and the Philippines, separates the islands that were once connected with Asia from those that were once connected with Australia.

West of Wallace's Line are—

1. **The Greater Sunda Islands:** Sumatra, Java, and Bali, the western links of the Sunda chain of islands, and Borneo, north of the chain.
2. **The Philippines**, north-east of Borneo.

East of Wallace's Line—

3. **The Lesser Sunda Islands**, continuing the chain of the Greater Sunda Islands for 1200 miles, from Lombok to Timorlaut.
4. **Celebes**, east of Borneo.
5. **The Moluccas** or **Spice Islands**, east of Celebes.

## II. Relief and General Features

All the islands are mountainous—so much so that, except in Sumatra and Borneo, there are no navigable rivers.

A line of volcanoes runs from Sumatra to the end of the Sunda chain, and then turns north and passes through the Moluccas and the Philippines. Borneo and Celebes, lying within the angle thus formed, are almost free from signs of volcanic activity.

In Sumatra, Java, and Lombok, volcanic peaks rise to 12,000 feet, but **Kinabalu** (13,700), in Borneo, the highest mountain in the archipelago, is non-volcanic.

No other part of the world is the seat of such violent volcanic action, and disastrous eruptions are frequent.

The most disastrous eruption of modern times took place in 1884, when **Krakatao**, a volcano on an island in the Sunda Strait, blew away a great part of the island, and produced effects that were felt all over the world.

## III. Climate, Plants, and Animals.

The climate is hot and moist, and along the equator there are no well-defined seasons. Further north and south the wet and dry seasons are clearly marked, and the northern Philippines, which are furthest away from the equator, are subject to violent typhoons.

Most of the islands are clothed with luxuriant vegetation, but in the Lesser Sunda Islands, which are influenced by their nearness to Australia, the climate is drier, vegetation is scanty, and some of the islands are barren.

The forests west of Wallace's Line resemble those of south-east Asia, and are inhabited by the **tiger**, the **elephant**, the rhinoceros, the wild ox, the orang-utan and other monkeys.

East of Wallace's Line the larger wild animals are not found. **Cockatoos, birds of Paradise,** and **cassowaries** take the place of Asiatic birds, and the **eucalyptus, casuarina,** and other Australian trees are found.

## IV. People.

POPULATION—

The population is nearly 42 millions, or 54 to the square mile.

Java, with over 500 inhabitants to the square mile, is by far the most densely populated island of the archipelago, having almost the same area and the same density of population as England.

RACES AND RELIGIONS—

The **Malays** form the bulk of the population, but give place to **Melanesians** in the eastern islands The dividing line between the two races is, however, further east than Wallace's Line. Europeans, chiefly Dutch, number less than 100,000; and there are about half a million Chinese. The Malays, who are mostly Muhammadans, are a short race, with a brown complexion, straight hair, and scanty beard. They are indolent and reserved in manner, but fond of gambling, cruel, and revengeful. The archipelago was formerly notorious for piracy.

## V. Products.

Malaysia is famous for **spices,** especially **nutmegs, cloves,** and **pepper. Sago, gutta-percha, Manilla hemp, edible birds' nests,** and **trepang,**[1] or **beche-de-mer** for the Chinese market, are characteristic products

Very large quantities of **coffee, rice, sugar,** and **tobacco** are produced.

The archipelago is fairly rich in minerals **Coal** is found in Sumatra, the Philippines, and, in large quantities, in Borneo. **Gold, silver,** and **diamonds; iron, lead, copper,** and **quicksilver** are also found. Banka and Billiton, small islands off Sumatra, have very productive **tin** mines.

The principal foreign trade is with the Netherlands and the United Kingdom. There is a local trade in native manufactures, especially **sarongs** (dhoties), and **krises** (Malay daggers).

## VI. Islands and Towns.

Three quarters of Malaysia belongs to the Dutch, and, together with Dutch New Guinea, forms the rich dependency of **Netherlands-India,** or the **Dutch East Indies.**

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[1] Trepang, or bêche-de-mer, a sea-slug, or as it is called from its shape, the sea cucumber, is highly valued as a delicacy in China.

The Dutch possessions include the whole of the Greater Sunda Islands, with the exception of British Borneo; the Lesser Sunda Islands, with the exception of Portuguese Timor; Celebes, and the Moluccas. The Philippines, formerly Spanish, now belong to the **United States.**

### 1. The Greater Sunda Islands:

**Sumatra,** the most westerly island of Malaysia, and the second in size, is half as large again as the United Kingdom. Its northern extremity is not far from the Nicobars, and it stretches south-east for a thousand miles to the Sunda Strait, which separates it from Java. For more than half its length the Malacca Strait separates it from the Malay Peninsula.

A mountain range with active volcanoes runs along the south-west coast, leaving an alluvial plain in the east with navigable rivers. The island is covered with dense forest, gutta-percha trees being very numerous.

The most valuable products are **black pepper, tobacco, coffee,** and various forest products, such as **gutta-percha, camphor,** and **gum-benzoin** **Gold** and **coal** are found.

The chief towns are **Kota raja,** the capital of **Achin,** in the north, **Deli,** a tobacco port, on the east coast, **Padang,** on the west coast, and **Palembang,** the greatest trade-mart, in the south-east. **Benkulen,** formerly British, is a decaying place.

Until lately the Dutch were continually at war with the Achinese.

**Java,** the most fertile, populous, and thriving island of the archipelago, is about the size of England. It extends for about 600 miles from Sunda Strait to Bali.

It is entirely mountainous, and contains more active volcanoes than any equal area in the world.

The staple products of the island are **sugar, coffee,** and **rice.**

Only Brazil exports more coffee, and only Cuba more sugar. Other valuable exports are **tobacco, cinchona, indigo,** and **tea.**

Java contains many interesting Hindu remains, and the Javanese have some Hindu blood in them.

TOWNS—

**Batavia** (115,000), the capital and business centre of Netherlands India, is situated on the north coast near the Strait of Sunda. A fine artificial harbour has been constructed a few miles to the east, and railways connect the capital with other parts of the island. **Buitenzorg,** a hill station near Batavia, is the usual residence of the Governor-General, and has the finest botanic garden in the world.

**Surakarta** (150,000), is the most populous town, and the residence of the nominal Emperor of Java.

**Surabaya** (142,000), opposite Madura island, is an important commercial town.

**Bali**, mountainous and volcanic, is separated from the east end of Java by a shallow and narrow strait.

**Borneo**, the largest island of Malaysia, and the third island of the world, is separated from Java by the Java Sea, from Celebes by the Macassar Strait, and from the Philippines by the Sulu Sea.

It is mountainous, containing the highest peak in Malaysia, but not volcanic.

The north and north-west of the island are British, comprising **British North Borneo**, the native state of **Brunei**, and **Sarawak**, ruled by an English Raja The small island of **Labuan** is also British. The rest of Borneo is Dutch

Borneo is rich in **coal**, **gold**, and **diamonds**

**Sago**, **edible birds' nests**, and **dammar**, a resin used for making varnish, are typical exports. The other products are much the same as those of Sumatra.

The interior is little known. The **Dyaks**, who form the bulk of the population, are head-hunters. **Chinese** are numerous on the coasts.

2. **The Philippines** are an archipelago of more than a thousand islands, most of them very irregular in shape, with a total area nearly equal to that of the United Kingdom.

The **Sulu Islands** and **Palawan**, enclosing between them the **Sulu Sea**, connect the Philippines with Borneo, and the **Celebes Sea** separates them from Celebes. **Formosa** lies to the north of the archipelago.

The islands are very volcanic and subject to disastrous eruptions. They also lie in the track of typhoons.

The chief products are **hemp**, **sugar**, **coffee**, **copra**, **tobacco leaf**, **cigars**, **indigo**. **Gold** and **coal** are found.

The largest islands are **Luzon**, in the north, and **Mindanao**, in the south.

**Manila** (350,000), in Luzon, noted for cheroots, is the capital. It has a fortified out-port, **Cavité**.

3. **The Lesser Sunda Islands.**

**Lombok**, **Sumbawa**, **Flores**, and **Ombay**, which continue the main Sunda chain, are comparatively small islands. The **Ombay Passage**, notorious for its currents, separates Ombay from **Timor**, the largest island of the group, the eastern half of which belongs to Portugal. Further east and out of the chain are the **Tenimber Islands** or **Timor-laut** group.

**Lombok Peak**, a volcano rising above 12,000 feet, is a well-known landmark.

These islands are without the luxuriant vegetation of the rest of the Malay Archipelago, and in appearance, and in their animal and vegetable life, are largely Australian.

4. **Celebes**, separated from the Lesser Sundas by the Flores Sea, and lying east of Borneo, west of the Moluccas, and south of the Philippines, is remarkable for its extraordinary shape

It consists of four mountainous peninsulas radiating from a central mountain mass It is the fourth island of the archipelago in size, and the interior is little known. The vegetation is rich, and the animal life highly peculiar, owing, probably, to the fact, indicated by the deep seas which surround it, that it was one of the earliest-formed islands of the archipelago.

**Macassar**, in the southern peninsula, is the busiest trade mart in Malaysia, collecting and exporting **coffee**, **trepang**, **tortoiseshell**, **copal** (for varnish), and **nutmegs**.

5. **The Moluccas**, or **Spice Islands**, famous for **cloves**, **nutmegs**, and **cardamoms**, as well as for brilliant butterflies and birds of Paradise, lie between Celebes and the western promontory of New Guinea.

**Halmahera** or **Gilolo**, in shape like Celebes on a smaller scale, **Buru**, and **Ceram** are the largest islands The small **Amboyna** and **Banda** groups, south of Ceram, formerly had monopolies of the clove and nutmeg culture

**Ternate**, on a small island west of Halmahera, is famous for its magnificent harbour. **Amboyna** is the capital of the Moluccas.

QUESTIONS.

1. Describe the situation of the Malay Archipelago, and the various island groups that compose it.
2. Name, from the map, and describe the positions of the best-known straits and seas of the archipelago. What sea lies between the Lesser Sunda Islands and the northern coast of Australia?
3. What is the general nature of the relief of the Malaysian islands? Draw a sketch-map showing the volcanic system.
4. What differences of plant and animal life are found east and west of Wallace's Line? What races of mankind are found?
5. Mention the characteristic products of the archipelago, and the principal imports. With what countries is trade chiefly carried on?
6. Describe Sumatra, Java, Borneo, Celebes, and the Philippines.
7. What do you know of Krakatao, bêche-de-mer, Amboyna, sarongs, Kinabalu, Brunei, Achin, Benkulen, Batavia, Macassar, Bali, the Dyaks, Cavité, Timor-laut, Ombay, Banda, Palawan, Manila, Ternate, Deli, Surabaya?

# MELANESIA.

## I. Situation and Extent

**Melanesia** is entirely comprised between the equator and the southern tropic. It consists of the great island of **New Guinea**, the curve of archipelagoes east of it and Australia, and the **Fiji Islands.**

The **Bismarck Archipelago** lies nearest New Guinea; then come the **Solomon Islands**, the **Santa Cruz Islands**, the **New Hebrides**, and, just north of the tropic of Capricorn, **New Caledonia** The Fiji Islands lie outside the curve, east of the New Hebrides.

The total area of Melanesia is about 340,000 square miles, New Guinea, next to Greenland the largest island in the world, being about 300,000 square miles. **New Pomerania** and **New Mecklenburg**, in the Bismarck Archipelago, and **New Caledonia**, are the largest of the remaining islands.

New Guinea, and the volcanic islands of the archipelagoes are mountainous, and covered with dense tropical forest. The low coral islands have less vegetation.

## II. Climate and Products.

The climate is hot and moist. Being south of the equator the rainy season is the period of the north-west monsoon, which blows from November to April. But rain falls at all times of the year

The forests contain many valuable timber trees, such as **ebony**, **cedar**, and **sandal-wood**, and the shores are fringed with **coco-nut palms** The **plantain**, **bread fruit**, **sago palm**, **sugar cane**, and **nutmeg** flourish.

There are no large wild animals, and animal life generally is of the Australian type.

**Bêche-de-mer**, **tortoise-shell**, and **pearl shell** are found on the coasts, and **gold** is found in New Guinea and in some of the other islands.

## III. People.

The population is estimated at about a million, but the natives of the archipelagoes are decreasing in numbers.

The **Melanesians** are a frizzly-haired, black race of the negro family. The **Papuans** of New Guinea and eastern Malaysia differ in various ways from the Melanesians of the islands further east, and the Fiji Islanders, who are physically the finest people, are sometimes regarded as Polynesians.

## IV. Islands and Settlements.

New Guinea is divided among three powers : the Netherlands, Germany, and the United Kingdom. The whole of the western half is included in Netherlands-India ; the northern portion of the eastern half belongs to Germany ; and the southern portion of the eastern half to the United Kingdom.

The interior is very little known, but a backbone of mountains is believed to run from one end of the island to the other, sections of which are known as the **Owen Stanley Range** (13,000 feet) in British New Guinea, the **Bismarck Range** (15,000 to 20,000 feet) in German New Guinea, and the **Charles Louis Mountains** (16,000 feet) in Dutch New Guinea.

The largest river is the **Fly**, which has most of its course in British territory, and is navigable nearly to the British-German boundary.

**Indiarubber** trees and **sago palms** abound. **Trepang**, **copra**, **pearl-shell**, **gold**, **pearls**, and **sandal-wood** are exported.

Magnificent **birds of Paradise** inhabit the forests, also **cassowaries**, **cockatoos**, and **pigeons**.

**Port Moresby**, on the east of the Gulf of Papua, is the chief British settlement. It has regular steamer communication with Australia.

The **Bismarck Archipelago** and **Bougainville** of the **Solomon** group belong to Germany ; the remaining islands of the Solomon group are British.

The islands are covered with dense forest, and the natives are still mostly savages and cannibals. **Bougainville**, the largest of the Solomon Islands, rises to 10,000 feet.

The **Santa Cruz**, or **Queen Charlotte Islands**, a small group, are British

The **New Hebrides**, a great recruiting ground for *kanakas*, or South Sea Island coolies, are independent They are very fertile and mountainous, and have active volcanoes.

**New Caledonia** belongs to France, and is used as a penal settlement. **Noumea** is the capital.

The **Fiji Islands** are a British colony. The largest islands are **Viti Levu** (about as large as Jamaica), and **Vanua Levu**. They are volcanic and surrounded by coral reefs.

The natives, a fine race, are mostly Christians, and there are a number of European settlers. Coolies from India work in the sugar plantations.

**Sugar** and **copra** are the chief exports. The capital is Suva, on Viti Levu.

### QUESTIONS.

1. Describe the situation of the chief archipelagoes and islands that compose Melanesia. Draw a sketch map showing to what European powers they belong.

2. What are the chief products of New Guinea? What are its inhabitants called, and what are they like? Mention the principal features of its relief.

3. What do you know of Port Moresby, the Fly, Suva, Bougainville, Noumea, trepang, Viti Levu, copra, kanakas, New Pomerania?

# AUSTRALIA.

## I. Situation and Size.

AUSTRALIA is the greatest land-mass in the hemisphere of water of which New Zealand occupies the centre With an area of 2,972,573 square miles, it is large enough to have in the interior a climate of the extreme or continental type, and it is often regarded as the fifth and smallest continent.

It lies wholly in the southern hemisphere, the northern part being within the tropics. It is comprised between the parallels of 10° and 40° south, its attendant island Tasmania alone being south of lat. 40°.

It is separated from Eastern Malaysia and New Guinea on the north by the shallow **Arafura Sea**, **Torres Strait**, and the **Coral Sea**

On the east more than 8,000 miles of the Pacific separate it from South America; on the west, more than 4,000 miles of the Indian Ocean separate it from Africa. New Zealand lies about 1,200 miles to the south-east, and on the south there is nothing but the supposed Antarctic continent between it and the South Pole.

Its greatest length, about 2,400 miles, is from west to east, a little south of the tropic. Its greatest breadth is about 2,000 miles.

The **Bass Strait** separates it from the heart-shaped island of **Tasmania**, 26,215 square miles, which lies off the south-eastern promontory.

## II. Coasts.

The coast line is, on the whole, regular.

The **Gulf of Carpentaria**, between **Arnhem Land** and the **Cape York Peninsula**, is a deep inlet on the northern coast. On the south coast the **Great Australian Bight**, with Gulfs **Spencer** and **St. Vincent** to the east of **Cape Catastrophe**, are the most marked indentations.

The **Great Barrier Reef** runs along the north-eastern coast for about a thousand miles at an average distance from it of thirty miles, and forms a smooth-water channel of great value for navigation.

West of the Great Australian Bight the south coast is lined for 700 miles by cliffs above 500 feet high, and for more than a thousand miles not a stream reaches the sea

Small inlets are numerous on the east and south-east coasts, many of which form excellent harbours.

## III Relief

The whole of the interior, northwards from the Great Australian Bight, belongs to a system of inland drainage which usually terminates in shallow salt lakes.

Plateaux, downs, and mountain ranges enclosing this region form the waterpartings between it and the coastal districts draining to the sea.

A line drawn from the Gulf of Carpentaria to Spencer Gulf divides Australia into an eastern and a western portion. The latter includes nearly the whole of the area draining inland, and the greater part of it is desert, and has an average elevation of over 1,000 feet.

The eastern portion is much less uniform in elevation, and contains the most fertile and best watered parts of Australia.

MOUNTAINS—

The principal range is the **Great Divide**, which runs near the Pacific coast from Cape York to Bass Strait

As its name implies the Great Divide is the main waterparting of the continent. It divides the drainage flowing inland from that which flows directly to the Pacific. The drainage flowing inland from the southern half of the range ultimately finds its way to the sea by the River Murray.

Distinctive names are given to different sections of the Great Divide In the south, in Victoria, the main range is called the **Australian Alps**, which rise, in **Mount Kosciusco**, just inside the borders of New South Wales, to 7,300 feet, the highest point in Australia. Further north, west of Sydney, are the **Blue Mountains**, succeeded by the **Liverpool and New England Ranges.**

Similar dividing ranges, though of no great height, and less continuous, run near the western coast, and separate the inland drainage from that which flows to the Indian Ocean.

In South Australia, on the east of St. Vincent Gulf, ranges run north which rise to near 3,000 feet, and are continued by the **Flinders Range** towards Lake Eyre. These highlands bound the basin of the Murray on the west.

In the heart of the interior there are little known ranges rising to 5,000 feet.

There are no active volcanoes, but extinct cones are very numerous in the district north and west of Melbourne.

**Tasmania** has a central plateau, surrounded by mountains rising to 5,000 feet.

## IV. Rivers and Lakes

RIVERS—

The **River Murray** (1,100 miles) is the only river comparable with the great rivers of other parts of the world. It rises on the western slopes of the Australian Alps, whose snows melting in summer keep the river more constant in volume than are most rivers of the country. The **Murrumbidgee** and the **Lachlan** rise further north, and join the Murray after uniting their streams. The **Darling**, the largest tributary of the Murray, and larger than the Murray itself, brings down to it the drainage of the Great Divide from as far north as the Darling Downs.

The Murray is navigable by small steamers as far as Albury, on the borders of Victoria and New South Wales, and the Darling is navigable, except in the dry season, to a still greater distance from the sea. The Murray enters the sea through a lagoon—Lake Alexandrina—east of St. Vincent Gulf.

The other rivers of Australia are much smaller, and are subject to great variations of volume, many becoming in summer a mere string of pools.

Those flowing to the Pacific from the Great Divide are short, but have plenty of water, and are subject to heavy floods after rain.

Some considerable rivers flow to the north coast. The largest is the **Flinders**, flowing into the Gulf of Carpentaria.

The **Fitzroy** and **Ashburton** rivers flow to the north-west coast, and on the west coast are the **Gascoyne** and **Swan** rivers.

LAKES—

The largest lakes are **Lakes Eyre, Torrens**, and **Gairdner** in the south-central interior, and **Amadeus** in the heart of the continent. They are shallow and salt, and the amount of water in them varies greatly. At times they are only salt-crusted mud.

## V. Climate.

Generally speaking the climate of Australia is hot and dry, but healthy. The death rate is smaller than in England. The heat of summer is greater than corresponds with the latitude and in the desert interior it is extreme. The cold in winter is in few places severe, and in the coast districts frost is rare.

The relief of Australia has an unfavourable influence upon the rainfall, and the country is subject to great droughts followed by disastrous floods. The south-east trade winds blow from the Pacific for most of the year, and the Great Divide arrests and condenses the rain-bearing clouds. Consequently the rainfall rapidly diminishes as we go inland, and over the greater part of the interior it is less than ten inches.

The north coast is in the monsoon region, and has a regular rainy season during the north-west monsoon, which blows from November to April.

The rainfall is very unequally distributed, and it only exceeds 50 inches in parts of the Great Divide, and in the tract west of the Gulf of Carpentaria.

## VI. Plants and Animals.

PLANTS—

The vegetation of the Australian **bush**, *i.e.* the country in its natural state of jungle, is quite unlike that of other parts of the world. The woodlands are sombre, with little variety of tint, and the trees cast little shade, because, being adapted to a climate of great heat and great dryness, the leaves are arranged to expose as little surface as possible to the rays of the sun.

The gum tree or **eucalyptus** is found in many varieties, some of which attain to great size, and rise to upwards of 300 feet.

The **casuarina**, yellow-flowered "**wattles**" of many kinds, the **grass-tree**, and others are characteristic.

Many grasses of great value for pasture clothe the ground in the coast districts and in parts of the interior, but large tracts in the drier and less fertile parts are covered with **scrub**, one of the commonest being the **Mallee** scrub—a dwarf eucalyptus.

The deserts of the interior produce little but the dreaded prickly **spinifex** or porcupine grass, which seriously injures the feet of animals, and is uneatable even by the camel.

ANIMALS—

The animals of Australia are as peculiar as its plants. The most characteristic are the **kangaroos**, **opossums** and **flying squirrels**, **wombats**, the duck-billed egg-laying **platypus**, and the **echidna** or spiny ant-eater. The birds include some of the most curious and beautiful of their kind. The most remarkable are the **lyre bird**, the **emu** and **cassowary** (ostrich tribe), the **laughing jackass**, the **black swan**, the **bower bird**, and **cockatoo**.

Since the British colonisation of Australia many European animals have been introduced. There are now great numbers of **horses, cattle,** and **sheep** of the best kinds. **Rabbits** have increased till they have become a pest. **Camels** have also been introduced from India, and are largely used as beasts of burden in the drier parts.

## VII. People.

The population of Australia, a little over 3¾ millions, or less than two to the square mile, is mostly congregated in the settled districts round the coasts. The bulk of the population is of British descent, and Protestant by religion.

The **aborigines,** of whom less than 100,000 now remain, are savages of a low type, who live from hand to mouth on the products of the bush, and by hunting. The aborigines of Tasmania are extinct.

## VIII. Products and Industries.

MINERALS—

The mineral wealth of Australia is very great. **Gold** has been obtained in enormous quantities, and is still the most valuable product of the country.

Other mineral products are **copper, tin, silver,** and **coal. Iron ore** is abundant, but hitherto has been little worked.

ANIMAL AND VEGETABLE PRODUCTS—

The plants and animals introduced into Australia by the colonists are the chief source of the products that are of commercial value. Sheep rearing, on the great grassy tracts known as sheep-runs, and horse and cattle breeding are the principal occupations of the **squatters,** that is, the colonists of the interior or **bush.** Australian **wool** (merino) is of the very highest quality, and is, after gold, the most valuable product of the country. Australian horses or **walers** are well known in India, and the carcasses of sheep and cattle are largely sent to England as frozen meat.

Agriculture is not as yet practised on a very extensive scale, but a good deal of **wheat** is now grown in the south, and **sugar-cane** in the tropical north. European **fruits** do excellently, and fruit canning is a growing industry. Australian **wines** of good quality and growing reputation are being made.

The great drawback to agriculture is the want of a steady water supply, but irrigation works are being constructed where practicable, and many **Artesian wells** have been sunk with successful results.

The manufacturing industries of Australia have hitherto been on a small scale, and most manufactured goods are still imported from the United Kingdom.

## IX Communications.

Australia is poorly off for waterways Most of the rivers are only navigable a little way inland, and a great many dry up in times of drought. The Murray and its tributaries form an important navigable system, but access to it from the sea is cut off by a shallow lagoon.

The railway system is fairly complete in the settled districts of the south-east, and lines connect the colonial capitals Adelaide, Melbourne, Sydney, and Brisbane A transcontinental line between Adelaide and Port Darwin, on the Indian Ocean, to follow the route of the transcontinental telegraph, is partly made

The other lines of Australia are lines connecting the various settlements on the coast with places in the interior.

There is a busy steamer coasting trade, and regular lines connect Australia with New Zealand, India, and the United Kingdom.

## X. Trade and Commerce

The great bulk of the trade is with the United Kingdom. The chief commercial ports are Sydney, Melbourne, and Brisbane, and Adelaide.

**Gold** and **wool**, are by far the most important exports. Others are **butter**, **frozen meat**, **tallow**, **leather and skins**, **sugar**, and **copper**. The imports are chiefly **textiles**, and **apparel**, **metals**, **metal goods**, and **machinery**.

## XI Government.

The six Australian colonies all have responsible government, that is, each colony appoints its own public officers, only the Governor being appointed by the Crown.

All the colonies are now confederated into the **Commonwealth of Australia** under a Governor-General, with a parliament of two houses. The federal capital has not yet been decided upon.

The protection of Australia from outside attack devolves upon the Imperial Government, and Sydney is the headquarters of the British fleet in Australasia.

The land forces are composed of **militia** and **volunteers**, who make admirable irregular troops, and have recently done excellent service in South Africa.

**Education** is well cared for, primary education being compulsory. There are universities at Sydney, Melbourne, and Adelaide.

The material condition of the people is very good. Wages are high; food is cheap; and the hours of work are short.

There is still a certain amount of **immigration** into Australia from the United Kingdom. The immigration of Chinese has been checked by a heavy poll-tax.

## XII. Political Subdivisions and Towns.

### QUEENSLAND.

(Area, 668,497 square miles: Population, 512,000.)

This colony comprises the whole north east of Australia, together with the adjacent islands in the Pacific and in the Gulf of Carpentaria.

Its surface is much diversified by the branches and spurs of the Great Divide, and its climate, although the northern half is within the tropics, is more equable than in other parts of Australia. There are many grassy highlands, and the **Darling Downs** in the south-east, about 2000 feet high, are the richest pastoral district in the colony.

The vegetable products of Queensland are very varied. **Sugar-cane** is largely grown; also **maize**, **rice**, and **wheat**

**Tobacco**, **cotton**, **plantains**, **oranges**, **pineapples**, and other tropical and sub-tropical fruits, as well as European **fruits**, flourish.

There are **pearl-shell**, **trepang**, **oyster**, and **turtle** fisheries along the coast.

**Gold** is mined, chiefly round **Charters Towers**; **silver**, **copper**, **tin**, and **coal** are also worked.

The leading exports, in order of value, are **wool**, **gold**, **sugar**, **frozen meat**, **live stock**, **hides and skins**, **preserved and salted meat**, **tallow**, and **pearl-shell**.

TOWNS—

**Brisbane** (108,000), the capital and principal seaport of the colony, is situated on the Brisbane river about 25 miles from the sea at Moreton Bay. The town stands low, and is subject to floods, but it has fine public buildings. It is about 500 miles north of Sydney, with which it is connected by rail.

**Rockhampton** (20,000), on the Fitzroy River, just inside the tropics, exports wool, and gold from **Mount Morgan**, the richest gold-field in the world.

**Townsville** is the chief port of northern Queensland, and is connected by rail with the rich gold-fields near **Charters Towers** (26,000), the most northerly inland town.

## NEW SOUTH WALES.

(Area, 310,367 square miles. Population, 1,356,000).

This is the oldest of the Australian colonies. It occupies the eastern seaboard south of Queensland and north of Victoria, and the broad plateaux and plains behind the Great Divide.

**Lord Howe Island**, north-east of Sydney, and **Norfolk Island**, further out in the Pacific, are dependencies of New South Wales.

The **Murray** forms the greater part of the southern boundary, and the treeless plains lying north of it, known as the **Riverina**, are noted for their wool, which is now the most valuable product of the colony.

The coastal districts are fertile and well-watered for Australia.

Coal is abundant and is largely worked. **Gold, silver, copper, tin**, and **iron** are also found.

The principal exports are **wool, gold, coal, hides** and **skins, preserved** and **frozen meat, copper, tallow**, and **leather**.

TOWNS—

**Sydney** (438,000), the capital and the oldest city in Australia, stands on the magnificent land-locked harbour of **Port Jackson**. It is the terminus of the steamship lines connecting Australia with Europe, with New Zealand, and the Pacific islands, and is the centre of a busy coasting trade.

It is connected with the other Colonial capitals and with the interior by a line which zig-zags up the ghats of the Blue Mountains, and terminates inland at **Bourke**, the limit of rainy season navigation on the upper Darling, 500 miles from Sydney, and at **Albury**, the frontier town on the Murray, whence a line of different gauge proceeds through Victoria to Melbourne. **Sydney** is a handsome city with fine public buildings, and many attractive suburbs on the shores of the harbour.

**Newcastle** (16,000), north of Sydney, is the greatest coal-mining centre and coal port in Australia.

**Broken Hill** (23,000), 800 miles from Sydney, near the borders of South Australia, is the largest town of a famous silver mining district.

**Paramatta** (13,000), at the head of Port Jackson, famous for its oranges and other fruit, is the residence of many Sydney merchants.

**Goulburn** (11,000), is an inland trading centre south-west of Sydney.

**Maitland** (11,000), on the river above Newcastle, is a thriving agricultural town with manufactures.

No other town has 10,000 inhabitants.

**Bathurst**, west of Sydney, is the centre of a wheat-growing and gold-mining district on the plateau.

**Deniliquin**, the chief town of the Riverina, is directly connected by rail with Melbourne, and most of the wool of the district is exported that way.

## VICTORIA.

(Area, 87,884 square miles. Population, 1,163,000)

Victoria occupies the south-eastern corner of Australia, south of the River Murray. It is the smallest but the most densely populated of the Australian colonies, and has the most temperate climate. From its beauty and fertility it was originally called **Australia Felix.**

The southern portion of the Great Divide traverses the colony from east to west, the eastern portion, which rises to 6000 feet, being known as the Australian Alps.

**Gippsland**, the district south of the Alps, is remarkably fertile, well-watered, and well-wooded, and is rich in minerals, including **coal.** The eucalyptus here grows to a gigantic size, and the rich grasses feed great numbers of horses and cattle

Other parts of the colony are equally suited to sheep, and Victorian **wool** is the finest in the world, and is, after gold, the most valuable product of the colony.

Agriculture has made great progress, and much "mallee" scrub country has been made productive by irrigation works **Wheat** and the **vine** are largely cultivated in the basin of the Murray, and **tobacco, oranges, figs,** and other fruits do well. **Butter-making** is an important industry.

The leading exports are **wool, gold, butter, leather, horses** and **cattle, wheat, tallow,** and **sugar.**

TOWNS—

**Melbourne** (478,000) is the capital and chief port of the colony, and the largest city of Australasia. Is is picturesquely situated on the **Yarra Yarra** River at the head of Port Philip. As a capital it compares favourably with those in other parts of the world, its buildings, public and otherwise, being very handsome. It is the seat of a University.

Melbourne is the centre of the Victorian railway system, which is the most complete in Australia. It is connected with the New South Wales system by bridges over the Murray at **Echuca** and **Albury**, and also with the South Australian system.

**Ballarat** (46,000), north-west of Melbourne, was the centre of the richest gold-mining district in the world, famous for its "nuggets." It is now also a manufacturing town, and an important agricultural centre

**Bendigo** (43,000), north of Melbourne, is the centre of another gold-mining district.

**Geelong** (23,000) is a port on the west side of Port Philip, south-west of Melbourne, and is the centre of thriving woollen manufactures.

## SOUTH AUSTRALIA.

(Area, 903,690 square miles Population, 370,000 )

South Australia proper has Queensland, New South Wales, and Victoria on the east, Western Australia on the west, and the ocean on the south. The territory north of lat. 26° S, including Arnhem Land and the western shores of the Gulf of Carpentaria, is also under the control of South Australia, and is called the **Northern Territory.** Hence South Australia as a whole occupies the centre of Australia, extending north and south from sea to sea But the part actually settled is the southern seaboard near Gulfs Spencer and St Vincent, and the interior to near Lake Torrens Most of the colony is desert, with occasional grassy tracts where watercourses occur ; and the tropical northern territory has only one or two settlements on the coast, chiefly inhabited by Chinese.

Ranges of hills running northward from the eastern arm of St. Vincent Gulf form the waterparting between the streams that flow to the Murray and the few that flow westward to lakes in the interior, or to the gulfs. The colony suffers more from drought than any of the others.

South Australia is the principal **wheat-growing** colony, and excellent **wine** is made in increasing quantities. Important irrigation works are in progress at **Renmark** on the lower Murray. Much fruit is grown, especially **oranges.**

**Copper** is the principal mineral.

The transcontinental railway is completed from Adelaide to a point beyond Lake Eyre, and in the Northern Territory 150 miles inland from Palmerston.

The chief exports are **wool, wheat,** and **copper.**

TOWNS—

**Adelaide** (148,000), the capital, is pleasantly situated on the **River Torrens**, between the **Mount Lofty Range** and St. Vincent Gulf. The town is well laid-out, and is connected by rail with **Glenelg** and **Port Adelaide**, its suburbs on the Gulf. It has many manufactures.

**Palmerston**, on Port Darwin, a splendid harbour, is the capital of the Northern Territory.

## WEST AUSTRALIA.

(Area, 975,920 square miles Population, 178,000)

This colony is the largest but the least populous. Most of it is practically desert, and only scattered fertile tracts on the seaboard are settled. There is good grassland along the **Fitzroy River**, the largest in the colony, in the north. Good harbours are few, the best one being on **King George's Sound**, in the extreme south-west.

**Wheat** and the **vine** are the principal objects of culture. The recent discovery of rich **gold-fields** running parallel with the coast has caused a considerable increase of population.

The most valuable exports next to gold are **wool**, **jarrah** and **karri** timber from the great forests of the south-west (jarrah wood being specially valuable on account of its power of resisting the attacks of white ants), **sandalwood**, **pearls** and **pearl-shell** from Shark's Bay and the north-west coast, and **skins**.

TOWNS—

**Perth** (35,000), the capital, is situated on the Swan River, on the south part of the west coast.

**Freemantle** (16,000), the chief port of the colony, is at the mouth of the Swan River, ten miles below Perth. A fine artificial harbour is being made. Both towns are connected by rail with **Albany** on King George's Sound, the present port of call for the European mail steamers, with **Coolgardie** and **Kalgurli**, the great gold towns of the interior, and with **Geraldtown**, about half-way up the west coast. This last is also connected with **Cue**, a new gold town to the east of it.

## TASMANIA.

(Area, 26,215 square miles. Population, 182,000.)

The island of Tasmania, about the size of Scotland, is separated from Victoria by **Bass Strait**, 140 miles wide, across which stretch the **Furneaux Islands** on the east, and the **Hunter** and **King Islands** on the west. The **Tamar** estuary is the only important indentation on the northern coast, and **Macquarie Harbour** on the west coast. The south-east corner is broken up into rocky peninsulas of curious shape, in the midst of which opens the estuary of the **Derwent.**

Most of the interior is occupied by a bleak plateau, on which are picturesque fresh-water lakes, but in the east is a considerable tract of open country, which affords good grazing ground for cattle. Much of the island is still dense forest.

The climate is much more temperate and equable than that of Australia. It is more like that of England, but rather warmer. **Fruit** comes to great perfection, and **jam-making** is an important industry.

Tasmania is rich in minerals, of which **gold, silver,** and **tin** have so far been the most extensively worked.

The chief exports are **wool, gold, silver and silver ore, tin, fresh and preserved fruit, timber** and **bark, hops.**

TOWNS—

**Hobart** (25,000), the capital and chief port, is a pleasant town on the Derwent, with various local industries, especially fruit preserving.

**Launceston** (17,000), on the Tamar, is the chief port of the north. A railway connects Hobart and Launceston with one another and with Macquarie Harbour.

### QUESTIONS.

1. How does the position in latitude of Australia compare with that of India? What countries of the northern hemisphere lie north of Australia? How is it situated with regard to Africa and America?

2. Describe the south coast of Australia. What seas wash the north coast?

3. How does the relief of Australia resemble, and how does it differ from that of Africa? Describe the principal mountain range.

4. Draw a sketch-map showing the source and course of the Murray, and of its tributaries. Why are the Australian rivers so inferior as waterways?

5. Why has Australia such a scanty rainfall? What are the seasons on the north coast, and why?

6. What is the general nature of Australian vegetation? Mention characteristic plants and animals.

7. What are the most valuable products of Australia? Where are wheat and wine produced?

8. Give some account of the railways of Australia. Draw a sketch-map showing the main system.

9. How does Queensland rank with European countries as to size? In what respects does it differ in climate and products from other Australian colonies?

10. Describe the situation and natural divisions of new South Wales.

11. Write a short account of the colony of Victoria.

12. What is South Australia? Mention its characteristic products.

13. West Australia has more than doubled its population since 1891. Account for this. What are its most valuable vegetable products?

14. What are the principal natural features and products of Tasmania? Why is its climate more like that of England than that of Australia proper?

15. How is Australia governed? What is the Australian Commonwealth?

16. What do you know of Palmerston, Gulf St Vincent, the Great Barrier Reef, Perth, the Blue Mountains, Sydney, Lake Eyre, the Flinders, "bush," "scrub," Darling Downs, Hobart, Melbourne, Broken Hill, Brisbane, Deniliquin, Gippsland, Albury, Adelaide, Bourke, Kalgurli, Newcastle, Ballarat?

# NEW ZEALAND.

## I. Introductory.

New Zealand consists of two large islands known as **North Island, South** (or **Middle**) **Island**, and a smaller one called **Stewart Island**. These islands were discovered in 1642 by the Dutch navigator Tasman, who gave them the name of New Zealand after the Dutch province of Zeeland in Holland. More than 100 years afterwards Captain Cook, the great English sailor explored the coasts and made the country known to the world.

There are also several groups of islands belonging to New Zealand and lying at distances of from 200 to 700 miles away, viz., **Chatham, Auckland, Kermadec, Campbell, Antipodes,** and **Bounty Islands**. The last three groups are uninhabited.

## II. Geographical Situation.

New Zealand is entirely within the Temperate Zone, and lies in the Pacific Ocean at about 1200 miles to the south-east of Australia.

## III. Size.

From North Cape at the extreme north of North Island to South Cape, the most southerly point of Stewart Island is about 1100 miles.

The breadth varies, being at the most about 250 miles, and on the average about 100 miles.

The total area of the archipelago is 104,471 square miles.

South Island has an area of 58,000 square miles, nearly the same as that of England and Wales.

North Island is about 44,000 square miles in area.

Stewart Island is about 665 square miles

## IV Boundaries.

The Pacific Ocean on all sides

## V. Coasts.

In two places the coast line is much broken, viz. (1) on the north-east face of North Island, where are the **Bay of Islands,** the **Gulf of Hauraki** and the **Bay of Plenty**; and (2) on the south-west face of South Island, where numerous narrow inlets, called 'sounds,' split the coasts and run up as much as 20 miles inland among the mountains, thus resembling the fiords of Norway.

STRAITS—

**Cook's Strait,** width 16 to 100 miles, lies between North Island and South Island.

**Foveaux Strait,** width 20 miles, separates South Island from Stewart Island.

## VI. Relief.

A backbone of mountain ranges, only broken by Cook's Strait, runs from the extreme south-west of South Island to East Cape on North Island.

The mountains in North Island, with the exception of a few volcanoes, are of moderate height

**Mount Ruapehu,** over 9000 feet, an active volcano, is the loftiest point on this island.

In South Island the **Southern Alps,** running along and near to the west coast, have many snow-clad peaks, vast glaciers, and lofty waterfalls, and rival the Swiss Alps in height and grandeur.

**Mount Cook** or **Aorangi,** "sky piercer," as the Maories named it, a beautiful peak, rising out of the great Tasman glacier to a height of 12,350 feet, is the highest mountain in New Zealand.

From Banks Peninsula on the east stretch the **Canterbury Plains.** They are quite flat, and provide the best grazing ground in the islands for sheep. Canterbury mutton is largely exported to England.

## VII. Rivers and Lakes.

RIVERS—

Owing to the narrowness of the country and the direction of the mountain ranges, which in both islands run parallel to the coast, and at no great distance from it, there are no very long rivers in New Zealand.

The **Waikato,** in North Island, which drains Lake Taupo, is the most important; it is navigable by small steamers for about 100 miles.

LAKES—

**Lake Taupo,** which in Maori means 'Devil,' in North Island, is the largest lake.

> Lake Taupo is surrounded by volcanic cones, and on its shores are numerous hot and even boiling springs, while, further north, is the famous **Hot Springs District** of New Zealand, about 1000 square miles in extent: here abound geysers, mud volcanoes, and vapour springs.
>
> On the shores of **Lake Rotomahana** were the celebrated Pink and White Terraces, with pools of clear deep-blue water around them, one of the sights of the world; these were completely destroyed by an eruption in 1886, and the once renowned lake is now a lake of mud.

## VIII. Climate.

New Zealand has been called the "Britain of the South," the islands resembling Great Britain in some points of scenery and climate.

In North Island the heat in summer is very great, but in South Island, except in the extreme south, where the rainfall is large, the climate is bracing, mild, and equable.

The rainfall varies considerably in different parts: on the west of South Island the average amount is 112 inches as against 28 inches on the east coast

Winds are remarkable for strength and persistency: they come mostly from the north-west, and bring rain to those coasts.

Snow seldom falls except in the south.

## IX. Plants and Animals.

PLANTS—

All indigenous plants are evergreen: many European plants have been introduced and flourish well.

> The **thistle,** imported by a Scotchman, now overruns much good land, and makes it useless for cultivation.

**Willows** are plentiful, and tree-ferns remarkably abundant.

In North Island the vegetation is quite tropical. Here grows the **Kauri pine**, a magnificent timber tree, which yields a valuable resin, Kauri gum, used for fine varnishes. Most of the exported gum is procured by digging on the sites of former Kauri forests.

New Zealand **flax** is made into ropes of great strength.

The "bush," as the forests are called, is very dense with underwood and creepers.

Native grasses, excellent fodder for sheep, cover the plains.

ANIMALS—

Indigenous animals are few, and there are no snakes

Birds are numerous and in remoter parts of the bush are still very tame.

The **Kiwi** or **Apteryx** (i e. "wingless") found only in New Zealand, has only rudimentary wings: it runs, however, very fast and cunningly, and is difficult to catch.

There are many **parrots** of all sorts

**Rabbits** destroy many harvests; the killing of these pests by "rabbiters" is a recognized occupation

**Fish** are numerous and of many species. Trout, imported from Great Britain, grow to a large size

## X. People.

POPULATION—

The population in 1896 was nearly 703,000, or more than [illegible] to the square mile.

There is clearly a great future before New Zealand when more of the bush shall have been cleared and more railways built There are still many openings for settlers, and the land is rich and fertile.

RACES—

Of the whole population about 40,000 are **Maories**, the remnant of the original inhabitants, and nearly 4000 are **Chinese**.

The rest of the population is **British** or of British origin.

The **Maories** have the finest physique and intelligence of any of the southern island peoples, and were once a nation of warriors They speak a very melodious language.

## XI. Products and Industries.

MINERALS—

**Gold, coal, copper, silver, iron ore,** and **iron sand** are found: but gold and coal are the only minerals extensively worked.

**Greenstone**, a kind of jade, is much prized by the Maories, who make it into weapons and ornaments.

CROPS—

**Wheat, oats, barley,** and **hay. Root crops** such as **turnips** and **potatoes** grow well.

INDUSTRIES—

New Zealand is essentially a sheep-farming country.

**Mutton freezing, tanning, wool-scouring, cheese** and **butter making, saw mills,** and **grain mills** are the most important of its industries.

The frozen meat is exported, mainly to Great Britain, in vessels specially fitted with refrigerating chambers.

## XII. Means of Communication.

RAILWAYS—

There are about 2271 miles of railway open Trams worked by horses, steam motors, or cables, are provided in all the chief towns.

TELEGRAPHS—

The telegraph system covers about 6910 miles, the telephone is very largely used

## XIII. Trade and Commerce.

By far the largest export is **wool**, next comes **frozen meat, gold, butter and cheese,** and **Kauri gum.**

Most of the exports go to Great Britain. The imports are mainly materials for clothing, machinery, sugar, paper, and books.

## XIV. Commercial Ports.

In North Island . **Auckland, Wellington.**
In South Island . **Lyttleton, Dunedin, Bluff Harbour.**

## XV. Government.

The Government, as in the Australian States, consists of a Governor, appointed from England, and a "General Assembly" or Parliament consisting of two chambers, the first called the Legislative Council, and the second the House of Representatives.

Elementary education is free and compulsory. The University of New Zealand has affiliated colleges at Dunedin, Christ Church, and Wellington.

## XVI. Towns.

**Wellington** (42,000), in North Island, is the capital of New Zealand and the seat of government There is direct steamer communication between Wellington and Sydney, and between Wellington and San Francisco.

**Auckland** (58,000) is the largest city in North Island and the most important seaport in New Zealand.

**Napier** and **Gisborne** in the same island are rising towns.

**Dunedin** (47,000), in South Island, called after the old name of Edinburgh, is an important commercial centre

**Christchurch** (52,000), "the city of the plains," is built mostly of wood. Its port, Port Lyttleton, has a large shipping trade.

### QUESTIONS.

1. Describe as exactly as you can the position on the globe of New Zealand What are the main islands, and how do they compare in size with those of the United Kingdom?

2. Describe the mountain system of New Zealand. Where is the greatest extent of lowland?

3 Give some particulars of climate and products. What are the chief occupations of the colonists?

4. Describe the four principal towns, giving their exact situation.

5 What do you know of Aorangi, the Maories, the kiwi, kauri gum, the Bay of Islands, Canterbury Plains, Cook's Strait?

# POLYNESIA

## I. Situation and Extent.

The eastern or outer archipelagoes of the Pacific collectively form Polynesia. These islands, as well as those of Micronesia, are often spoken of as the **South Sea Islands**

- The most westerly group is the **Tonga Islands**, east of Fiji, with the **Samoan group** to the north-east. Further east are the **Cook Islands**, the **Society Islands**, and the great **Tuamotu** or **Low Archipelago** North of this last are the **Marquesas**. Small scattered groups lie between the groups mentioned and the equator, and finally, far away to the north and just within the tropics, are the **Hawaii** or **Sandwich Islands.** Midway between the Low Archipelago and South America is the solitary **Easter Island.**

**The total area of land included in Polynesia is less than 11,000 square miles, and the inhabitants number less than 200,000.**

## II. Relief, Climate, and Products.

Two distinct classes of islands are found the high, volcanic island, richly clothed with vegetation, and the low, coral atoll, with its fringe of coco-nut palms, enclosing a lagoon.

Most of the high islands rise to upwards of 4000 feet, and in the Sandwich Islands there are peaks of nearly 14,000 feet.

Although within the tropics the climate is, as a rule, singularly moderate and equable. **Fish**, the **bread-fruit**, the **coco nut**, and other fruits form the chief food of the people; and the larger islands under the influence of European civilisation grow **rice**, **maize**, **cotton**, and **sugar-cane**

The principal exports are **copra** (dried coco-nut), and **pearl-shell.**

## III. People.

The Polynesians are a remarkably handsome and well-built race, light brown in complexion, and of a cheerful and kindly disposition. They are expert fishermen, and manage their canoes wonderfully well, both sexes being as much at home in the sea as on land.

The women are most skilful in making delicate **mats**, **cloth** from bark, and ornamental **baskets**

## IV. Political Divisions and Towns.

The **Tonga** or **Friendly Islands**, the **Cook** or **Hervey Islands**, and the smaller **Ellice**, **Phoenix**, **Tokelau**, and **Manihiki** groups, besides many scattered islands, are British

**Pitcairn Island** is a small island east of the Low Archipelago, peopled by the descendants of the mutineers of the Bounty.

The **Samoa** or **Navigator Islands** are divided between the United States and Germany, the latter possessing Savaii and Upolu, the two largest islands, and the United States the remaining islands.

They are fertile and well watered, but subject to disastrous hurricanes. Samoa is on the direct route between Australia and America, and **Apia**, the capital, on the island of **Upolu**, is a regular port of call and an Europeanised town.

The **Austral** or **Tubuai** Islands, the **Society Islands**, the **Low Archipelago**, and the **Marquesas** are French.

**Tahiti** (called **Otaheite** by Captain Cook), the largest of the Society Islands, is a beautiful island with mountains rising to near 8000 feet. The climate is delightful, and all tropical fruits grow to perfection. Besides **copra** and **pearl-shell** there is a considerable export of **vanilla**, used for flavouring sweetmeats.

**Papeete**, the capital, is a modern town of European appearance.

The **Low Archipelago**, named by the French **Tuamotu**, consists of about eighty low coral islands.

The **Marquesas** are volcanic, and most rugged and picturesque.

**Hawaii** or the **Sandwich Islands**, belonging to the United States, is by far the largest archipelago of Polynesia. The total area of the islands is about 6,700 square miles, and the population over 100,000.

On Hawaii, the largest island, **Mauna Kea**, an extinct volcano, rises to 13,900 feet, and **Mauna Loa**, an active volcano, to 13,750 feet. **Kilauea** is a remarkable crater full of glowing lava, on the slope of Mauna Loa. On **Maui**, the second island in size, is an extinct volcano with the largest crater in the world. The climate is pleasant, and the natives are intelligent and much Europeanised.

**Sugar**, **rice**, and **plantains** are the chief products, and the chief trade is with the United States.

**Honolulu** (80,000) the capital, situated on **Oahu**, is a modern town with a very mixed population.

## MICRONESIA.

The innumerable very small islands lying north of the equator between Melanesia and Japan constitute Micronesia. Except the northern Ladrones they are nearly all low coral islands.

The most easterly groups are the **Gilbert** or **Kingsmill Islands** and the **Marshall Islands**. West of these are the **Caroline Islands** and **Pelew Islands**. The **Ladrone** or **Marianne Islands** lie north of the Carolines. All, except the Gilbert Islands, which are British, and **Guam**, the largest of the Ladrones, which belong to the United States, now belong to Germany.

Owing to their comparative nearness to Melanesia and Malaysia the inhabitants are a very mixed race.

### QUESTIONS.

1. What is Polynesia? Name the principal groups of islands composing it, and say to what powers they belong. Which groups lie north, and which south of the equator?

2. What two classes of islands are found in Polynesia, and how do they differ? Give some account of Polynesian peoples and products.

3. What is Micronesia? What is the political ownership of these groups?

4. What and where are Pitcairn Island, Guam, Apia, Honolulu, Papeete, Mauna Kea, Tahiti, Easter Island?

## EXAMINATION PAPERS ON AUSTRALASIA.

### I.

1. Draw a sketch-map of the Malay Archipelago, showing Borneo and the whole Sunda chain, Luzon, Mindanao, Celebes, Halmahera, and Ceram. Draw the equator and Wallace's line, and mark the position of Batavia, Manila, Sarawak, and Macassar.

2. What different races inhabit Australasia, and where are they found?

3. State the position of the following straits: Bass, Cook, Torres, Macassar, Sunda, Malacca.

4. What parts of Australasia produce coffee, copra, india-rubber, sago, spices, and wheat, and say what climatic or other conditions are necessary for their production

5. Draw a sketch-map of New Guinea, showing its political divisions, the Fly River, and the Owen Stanley Range. How does its plant and animal life differ from that of the large islands on the other side of Wallace's Line?

6. State what you know of (1) the climate, (2) the mineral products of New Zealand

### II.

1. Draw a map of Australia, marking the position of the different colonies, and their capital towns, the chief mountain ranges, and the Great Barrier Reef.

2. Describe the positions, relative to Australia, of New Zealand and Tasmania. Where are Christ Church, Dunedin, Launceston, and Hobart?

3. Mention the chief exports of the several Australian colonies.

4. Between what meridians of longitude does Australia lie? Describe the course of a steamer from London to Sydney, naming the usual ports of call. Describe the route from Sydney to San Francisco.

5. What part of Australia has the most abundant rainfall, and what is the character of the interior as regards rainfall and drainage?

6. What and where are Krakatao, New Caledonia, Timor, Samoa, the Fiji Islands, King George's Sound, Tuamotu, the Tonga Islands, and the Ladrone Islands?

# AFRICA.

## I. Introductory.

**Africa** is distinguished from other continents in several ways:

(1) It is the most tropical continent; it stretches to a nearly equal distance north and south of the Equator, and seven-tenths of its whole surface lies within the tropics

(2) It is the most uniformly high continent; the interior is composed mainly of a series of table-lands having a mean altitude of 3500 feet above the sea in the south, and 1300 feet in the north.

(3) Its outline is the most regular; the coast line is very little broken by bays or estuaries, and is consequently shorter, in proportion to size, than that of any other continent.

(4) Its large rivers are interrupted by cataracts and rapids where they leave the interior highlands, and often have dangerous sandbanks near their mouths.

(5) Its climate is more uniformly hot than that of any other continent; it has no real winter, not more than 20° of difference existing in most parts between the hottest and the coldest weather. Almost the whole continent lies between the northern and southern isotherms of 68°.

> Partly from being the most difficult to explore, and consequently the least known of the continents, and partly from its being inhabited by dark-skinned and savage races, it is often spoken of as "the Dark Continent"

## II. Situation and Size.

**Africa** is the vast peninsula which stretches southward from the Mediterranean Sea, and is attached to Asia by the narrow Isthmus of Suez. It forms the south-western division of the land mass called the Old World

EXTREME POINTS—

North: Cape Blanc, or Ras el Abiad, lat. 37° 20′ N.
South: Cape Agulhas, lat. 34° 51′ S.
East: Ras Hafun, long 51° 28′ E.
West: Cape Verde, long. 17° 33′ W.

The area of Africa is about 11,300,000 square miles; thus it is less than one-fourth of the whole land surface of the globe; it is about three times the size of Europe, and more than two-thirds of the size of Asia. Its greatest length from north to south is 5000 miles, and its greatest breadth from east to west is only a few hundred miles shorter than its length

## III. Boundaries.

On the North: the Mediterranean.
On the West: the Atlantic
On the South: the great Southern Ocean
On the East: the Indian Ocean, the Red Sea, the Gulf of Suez, and the Isthmus of Suez.

## IV. Coasts

There are only two large indentations in the coast, one in the north, and the other in the west.

The indentation in the north forms the **Gulf of Sidra** and the **Gulf of Cabes.**

In the west the **Gulf of Guinea** contains the **Bight of Biafra** and the **Bight of Benin.**

On the west **Walfish** (or "Whalefish") **Bay** and **Table Bay**; on the south **False Bay** and **Algoa Bay**; and on the east **Delagoa Bay** and **Sofala Bay** are minor indentations.

The principal capes are:

On the north—**Cape Bon, Cape Blanco, Cape Ceuta**, opposite to Gibraltar, and **Cape Spartel**

On the west: **Cape Verde, Cape Palmas, Cape Lopez,** and **Cape Frio.**

On the south—The **Cape of Good Hope** and **Cape Agulhas.**

On the east—**Cape Corrientes, Cape Delgado, Ras Hafun**, and **Cape Guardafui.**

ISLANDS—

Africa has very few islands. **Madagascar**, the only large island, is separated from the continent by the Mozambique Channel, which is wider and deeper than the Red Sea; and most of the other islands belong rather to the surrounding oceans than to the continent. The islands which lie near the mainland are **Fernando Po** and some smaller islands in the Gulf of Guinea; **Zanzibar, Pemba,** and **Sokotra** on the east coast.

**Madeira**, the **Canaries**, and the **Cape Verde Islands** are small groups off the north-west coast. The **Azores** lie far out in the North Atlantic **St. Helena** and **Ascension Island** are in the South Atlantic. **Mauritius** and **Réunion** are in the Indian Ocean east of Madagascar; the **Seychelles** and other groups lie north-east of Madagascar.

## V. Land Elevation or Relief.

As a rule the interior plateau rises abruptly from the coast, leaving a narrow strip of lowland next the sea. The slope of the interior is very varied, as is seen from the different directions taken by the four great rivers that drain the tropical belt.

PLATEAUX—

The **Northern Highlands** lie north of a line drawn from the Gulf of Guinea to the Red Sea north of Abyssinia. They average under 2000 feet in elevation, and have three natural divisions: the **Atlas Highlands**, the **Sahara**, and the **Sudan**. The **Southern Highlands** average over 2000 feet in elevation, and have also three natural divisions: the **East African Highlands**, the **Central Plateau**, enclosing the circular basin of the Congo, and the **Southern Plateau.**

MOUNTAINS—

The mountains of Africa may be classed into three great systems: the **Atlas range**, the **West Coast range**, the **East Coast range.**

The **Atlas Range** stretches across the north-western corner of the continent in two parallel chains, known as the **Greater Atlas** and the **Lesser Atlas**, the latter being nearer the coast. The highest point reaches about 14,000 feet.

The **West Coast Range**, beginning in the south, just north of the Orange River, extends along the Atlantic coast up to the borders of the Sahara. Its middle section, near the Gulf of Guinea, is known as the **Kamerun Mountains**, in which is the highest point, 13,000 feet.

The **East Coast Range** commences in the extreme south as the **Nieuweveld Mountains**, and continues northward to the river Limpopo, under the name of the **Drakensberg Mountains**, rising to 11,000 feet Between the rivers Limpopo and Zambesi there is a break in the range, but north of the Zambesi it continues, with some interruptions, across the equator until it joins the **Abyssinian** Highlands. A lower range follows the coast-line of the Red Sea, and gradually dies down to level ground near Cairo.

Rising from the plateau near the equator are the loftiest peaks in Africa: **Mount Kilima-Njaro** (19,700 feet), **Mount Kenia** (18,000 feet), and **Mount Ruwenzori** (19,000 feet). These are snowy peaks of volcanic origin.

### Plains and Deserts—

The plains proper of Africa—that is, the land below 600 feet in elevation—form a very small proportion of the total area. There are narrow strips of such lowland between the interior plateau and the coast, and in the lower basins of the great rivers, but the largest area below 600 feet is along the northern coast to the west of the Nile. Near the Gulf of Cabes is a tract below the level of the Mediterranean.

The chief deserts of Africa are **Sahara** in North Africa, and **Kalahari** in South Africa. The former is the largest desert in the world. It has an area of 3½ millions of square miles, which is nearly the size of Europe, and is 3000 miles long. Though sometimes called a "waterless ocean," there is not a complete absence of rain; long temporary streams (or wadis) are found, and where these are, there are inhabited oases, some of them thousands of square miles in extent. Hot suffocating winds blow from it, which are called Simums.

The **Kalahari Desert** is the dry region of Bushman Land, from the Orange River to about 20° south latitude, and is a dry sandy tract without running water.

## VI. Rivers and Lakes.

### Rivers—

Four great rivers drain the tropical belt, the **Nile**, the **Niger**, the **Congo**, and the **Zambesi**.

The **Nile**, 3670 miles, is the longest river in Africa, and the second longest in the world. Its head stream rises south of the Equator and flows into Lake Victoria Nyanza; leaving this lake it flows northward under the name of the **Somerset Nile** and falls into Lake Albert Nyanza. Thence it continues its course northwards as the **White Nile**, which receives three tributaries, the **Bahr-el-Gazal**, from the Sudan on the west, and the **Blue Nile** and the **Black Nile** (or **River Atbara**), both from Abyssinia, on the east.

Finally, it flows the length of Egypt, receiving no other affluents, and interrupted by a succession of cataracts, until it enters the Mediterranean by a delta covering some 8500 square miles The Nile is navigable for over 3000 miles from its mouth.

The **Niger** rises on the inner slopes of the plateaux of western Sudan, and runs at first north-east, but makes a huge curve to the east and then flows south until it discharges itself by a delta, 200 miles across, into the Gulf of Guinea. Its only large tributary is the **Benue**, from the east

The length of the Niger is about 2600 miles. It is navigable up to the Benue, which, being itself also navigable, gives access to the heart of the Sudan

The **Congo**, which carries more water to the sea than all the other African rivers together, rises to the west of Lake Nyassa, flows into and out of Lakes Bangweolo and Mweru, and continues northward until it descends the Stanley Falls and crosses the equator; soon after this it curves west and then south, crosses the equator again and the West Coast Range, and falls into the Atlantic, by a deep wide mouth. It is 2800 miles long and is navigable between **Stanley Pool**, some 300 miles from its mouth, and **Stanley Falls**, near the equator, a distance of about 1000 miles.

The **Zambesi** (1600 miles) rises in the highlands south of the Congo basin, flows southward until it is broken by the **Victoria Falls** (second in grandeur only to the Falls of Niagara), and then, after curving north, runs east until it flows into the Mozambique Channel, opposite the middle of Madagascar. The **Shire**, draining Lake Nyassa joins it near its mouth. The course of the Zambesi is much obstructed by rapids, and it is navigable only for a short distance.

There are several other rivers of less importance.

The **Senegal** and the **Gambia** rise near one another in the western highlands of the Sudan and flow west into the Atlantic, one on each side of Cape Verde, giving to the country which they drain the name of Senegambia.

The **Orange River**, which gives its name to the Orange River Colony, rises in the Drakensberg Mountains, and, after a westerly course of nearly 1000 miles, falls into the Atlantic. It is unnavigable. The **Vaal**, its tributary, forms the boundary between the Orange River Colony and the Transvaal.

The **Limpopo** (or "Crocodile"), 1000 miles, rises in the Transvaal, near Pretoria, and flows to the Indian Ocean. It forms part of the northern boundary of the Transvaal. It is shallow and obstructed by a bar at its mouth.

LAKES—

It is only within the last 50 years that the great lake system of Equatorial Africa has been fully explored: our knowledge of this region is due mainly to the British travellers Livingstone, Speke, Grant, Burton, Baker, and Stanley. No other continent except North America has lakes so large and so numerous as Africa.

The principal series of great fresh-water lakes occupies the eastern highlands south of the equator. The five largest of these lakes lie in high valleys from 1500 to nearly 4000 feet above sea-level; they are

**Victoria Nyanza**, with an area of about 27,000 square miles, and so nearly equal in size to Lake Superior in North America, the largest fresh water lake in the world, and **Albert Nyanza**, both of which are connected with the river basin of the Nile.

**Tanganyika**, long and narrow in shape, near the source of the Congo. When the lake is full it discharges into the Upper Congo.

**Nyassa**, also long and narrow, one of the sources of the Zambesi.

**Lake Bangweolo**, oval in shape, one of the sources of the Congo

Further north-east is a series of smaller lakes without a visible outlet, the largest of which is **Lake Rudolf**

Two other lakes situated far west of the equatorial lake system, **Lake Chad** on the southern border of the Sahara, and **Lake Ngami** in the north of the Kalahari desert, are centres of inland drainage. They have no outlet, and are much larger in the rainy than in the dry season.

There are also lakes in the Congo basin, the largest of which is **Lake Leopold II.**

## VII Climate.

As to climate, the year in Africa may be divided into two seasons, the rainy season, and the dry season; but the rainfall occurs at different times in different regions north and south of the Equator.

Thus, in the extreme north, the rainy season is during the European winter months, and in the extreme south during the European summer. In the central tropical belt the rainy season follows the course of the sun; thus, when the sun is at its zenith north of the Equator, *i.e.* when it is summer in Europe, it heats the land of the northern half of the tropical belt, which in its turn heats and expands the air, thus causing an inrush of rain-laden air from the sea; the same process when the sun is at its zenith south of the Equator gives rain when it is winter in Europe to the southern half of the tropical belt.

In the Sahara and the Kalahari deserts little rain falls, and the dry heat is intense. The winds that blow over the northern desert bring no rain, because they have first swept over highlands, and thus lost their moisture, or blow from cool regions to warm ones. The southern desert is waterless, because the ocean winds from the south-east also blow from cooler to warmer regions, and are therefore drying winds.

The strip of lowland along the coast is generally subject to damp heat, and is very malarious, while the higher plateaux in the interior are cooler, drier, and more healthy.

The following table gives particulars of the climate at various places in the continent :

| Place. | Latitude | Longitude | Mean Annual Temperature | Mean Temperature Hottest day | Mean Temperature Coldest day | Range | Rainfall |
|---|---|---|---|---|---|---|---|
| Algiers, . | 37° N. | 3° E | 64° | 78° | 54° | 24° | 27" |
| Cairo, . . | 30° N. | 31° E. | 71° | 85° | 54° | 31° | 1" |
| Khartum, . | 16° N. | 33° E. | 84° | 92° | 67° | 25° | ? |
| Zanzibar, . | 6° S. | 39° E. | 80° | 82° | 77° | 5° | 56" |
| Pretoria, . | 26° S. | 29° E. | 67° | 74° | 59° | 13° | ? |
| Cape Town, | 34° S. | 18° E. | 62° | 70° | 55° | 15° | 25" |

## VIII. Plants and Animals.

PLANTS—

The great heat and the tropical rainfall produce a most abundant vegetation in the equatorial regions ; enormous tracts of forest spread almost across the centre of the continent. In the cultivated parts, food plants of almost every variety are grown abundantly. The trees and plants vary in the great divisions of Northern, Central, and Southern Africa.

In northern Africa the vegetation is of a desert character, distinguished by a prevalence of wild prickly shrubs, and the **date palm.**

In Egypt, in the east, and in parts of the Barbary states, in the west, **olive** and **orange groves** and fields of **cotton, rice, wheat, maize**, and **flax** are cultivated.

Central Africa, within the tropical belt, has a vegetation resembling that of India. The forests contain huge **baobabs, oil-palm, ebony, teak**, and **india-rubber** trees ; **cotton, flax**, and **coffee** are cultivated ; the chief **food plants** are **manioc** (from which tapioca is prepared), **yam, ground-nut, banana, sugar-cane, cocoa-nut, tamarind**, and **pumpkin.**

**Durra**, a kind of millet, is the commonest food-grain in the Sudan. On the coasts mangrove forests make malarious swamps.

Southern Africa has a vegetation peculiar to itself. **Euphorbias** (leafless trees, often armed with prickles), **aloes**, and **heaths** abound **Maize, wheat**, and the **vine** are extensively cultivated, and the warm temperate climate of the extreme south is favourable to the production of many of the fruits and flowers known in Europe.

ANIMALS—

The wild animals of Africa are very numerous ; the largest species of quadrupeds, and the largest species of monkeys abound; the largest species of amphibious animals are found in the rivers, and the largest species of birds on the plains, which also swarm with countless herds of antelopes.

The **African elephant**, different from the Asiatic elephant in having a narrower forehead and larger ears, abounds south of the Sahara.

Several kinds of **rhinoceros** haunt the forests, and most of the rivers contain the **hippopotamus**, not found out of Africa.

The **lion** and the **leopard** are common throughout all but the cultivated areas.

The **giraffe**, once very numerous all over the continent, is now becoming comparatively rare.

The **zebra** and the **quagga** are peculiar to the south, as is also the **wild buffalo.**

**Antelopes** of many species are abundant: the **gazelle** in North Africa, the **spring-bok** in South Africa generally, and the huge **eland** in Cape Colony.

The **camel** is used extensively in the desert of Sahara and the more northerly countries

The **gorilla**, the largest kind of monkey, is found in the west, not far from the equator.

**Baboons** are common in the south.

BIRDS—

Of birds there is a large variety.

**Ostriches** are reared on ostrich farms in both northern and southern Africa.

**Vultures, flamingoes**, and **secretary birds** (or "snake-eaters") are abundant.

REPTILES—

**Snakes** are not so common as in Asia, but there are numerous varieties, including the **python. Crocodiles** abound in the great rivers.

INSECTS—

**Insects** are numerous and destructive, such as **locusts, white ants**, and the **tse-tse fly**, whose poisonous bite is so fatal to horses and oxen that in Central Africa they cannot be used.

## IX. People.

POPULATION—

The total of the whole population of Africa has been estimated at 180,000,000, less than two-thirds that of India.

RACES—

The aboriginal nations are **Negroes** in the Sudan, **Bantus** in the Equatorial regions (of whom the highest types are the **Zulus** and **Bechuanas**), **Hottentots** and **Bushmen** in the south. The north and north-east are peopled by branches of the

**Caucasian stock, Arabs, Berbers, Egyptians, Gallas,** and **Somalis.**

The people differ in colour as in origin, the Arabs and Egyptians being much fairer than the yellowish Hottentots or the black negroes

Tribes of dwarfs have been discovered in the forests. Europeans are found as traders or administrators in the various settlements round the coast and in the interior and have colonized a large part of South Africa.

LANGUAGES—

**Arabic** is the language spoken along the whole of the sea-coast from the delta of the Nile to the straits of Gibraltar, and from the straits of Gibraltar to the mouth of the Senegal

**Berber** languages are spoken in the Sahara; in most of the south, **Bantu** languages.

RELIGION—

**Muhammadanism** is the religion of the whole of North Africa. The tribes of the southern regions have practically no religion beyond a belief in evil spirits, supposed to inhabit various natural objects, and to be propitiated with sacrifices, often human, and superstitious rites. The Kopts of Egypt and the Abyssinians observe a form of **Christianity.**

## X. Products.

MINERALS—

Of minerals, the most valuable and useful kinds of metals—**gold, silver, copper, iron, lead**—are found in many parts; **diamonds** are extensively mined near the southern desert, and **salt** is abundant in both deserts.

**Gold** is found in the Transvaal, in mines which are as rich as those of Australia.

The "Gold Coast" was so called from the gold formerly found in the beds of its rivers, and the British *Guinea* took its name from the region whence the gold originally came.

ANIMAL PRODUCTS—

These are chiefly **ivory** from the elephants of central tropical Africa, **ostrich feathers** and **wool** from South Africa, and **hides.**

VEGETABLE PRODUCTS—

The cereals and other food crops already described are mostly grown for local consumption.

**Palm-oil, india-rubber, cotton, coffee, ebony, indigo, ground-nuts,** and **gums** are the principal vegetable commodities exported.

## XI. Commerce and Communications.

**Africa** is commercially the least important of all the continents. This is due to its backward civilisation, its deficiency in good harbours, and the want of waterways, easily accessible from the sea, leading into the interior.

> In this last respect Africa compares unfavourably with every continent except Australia. It is true that many of the great rivers have long stretches of navigable water, but these are usually interrupted by rapids and waterfalls. Roads do not exist, and throughout the continent there is much difficulty in conveying commodities between the interior and the coast. In tropical Africa human transport, the most expensive of all, is usually the only kind available; in the north the camel is the ordinary means of transport, and in the south the lumbering ox wagon.

Under these circumstances the flow of produce to the collecting stations and ports is irregular and comparatively small, and industry is very difficult to organise. Latterly, however, steamers have been introduced on some of the inland rivers and lakes, and the development of the interior is making progress. Railways are also being made in various parts of the continent. The main lines in Egypt and in South Africa are already complete, and the proposed Cape to Cairo railway will connect these two systems by a line running the length of Africa, which will do much to open up the interior.

## XII. Divisions and Political Distribution.

I. North Africa, which includes the four **Barbary States, Egypt** and the **Egyptian Sudan**, the **Sahara**, and the **Sudan**.

II. West Africa, which includes the countries of the **Guinea** Coast from the River Senegal to near Cape Frio, and the **Congo State.**

III. South Africa, which includes **British South Africa** and **German South-west Africa.**

IV. East Africa, which includes **British Central Africa, Portuguese East Africa, German East Africa, British East Africa, Somaliland, Abyssinia,** and **Eritrea.**

V. The African Islands.

> Nearly the whole of Africa has now been partitioned out among European powers. The only independent native states left are **Morocco, Abyssinia,** and **Liberia.**
>
> **France** is the predominant power in the north-west. She also owns part of the Congo basin, a patch of Somaliland on the Gulf of Aden, and Madagascar. More than 3½ million square miles, or nearly one-third of the whole continent, is

French territory. No other power has such large possessions, but much of the area belonging to France is hopeless desert.

The **United Kingdom** is the predominant power in north-east, south-central, and South Africa. She has also considerable territories on the Gulf of Guinea. Including Egypt and the Egyptian Sudan, now under British control, her territory is little less than that of France.

The **Congo State**, practically a dependency of Belgium, occupies 900,000 square miles in the heart of equatorial Africa.

**Germany** has territory on both sides of the continent south of the equator. Kamerun and Togoland, on the Gulf of Guinea, are also German. Her possessions are nearly equal in extent to the Congo State.

**Portugal** has about 100,000 square miles less than Germany Her territory includes Portuguese East Africa, Angola on the west coast south of the equator, a small patch of the Guinea Coast, and the Cape Verde Islands

**Turkey** owns Tripoli and Fezzan in the north, about 400,000 square miles

**Italy** possesses Somaliland south of Cape Guardafui, and Eritrea, a strip of the seaboard of the Red Sea; altogether about 230,000 square miles.

**Spain** has about as much territory as Italy. It includes a portion of the western Sahara south of Morocco, several "Presidios" or small settlements on the Morocco coast, the Canary Islands, and the island of Fernando Po.

## I. NORTH AFRICA.

### THE FOUR BARBARY STATES

**Morocco**, at the north-west corner of the continent, is under the rule of a Muhammadan Emperor. The country has an area of some 219,000 square miles, about equal to that of Bengal, and is crossed by the Atlas Mountains. These mountains catch the moisture brought by the ocean winds from the north-west, and the western region of the country is, consequently, more fertile than the eastern.

**Maize, dates, almonds, olives, beans,** and **peas** are grown, as well as excellent **grapes.**

TOWNS—

**Fez** (140,000), the capital, noted for its **caps, Morocco, Mekines,** in all of which Morocco leather is manufactured, and **Tangier,** a port opposite to Gibraltar, are the only towns of importance.

**Algeria**, lying to the east of Morocco, is a French province and its area (184,474 square miles) is somewhat less than that of France.

The Atlas Ranges cross Algiers and then dwindle down to sea-level.

The fertile region is the coast strip, known as the **Tell,** where **wheat** and **wine** are produced; the higher lands produce **esparto grass,** which is exported to Great Britain for use in paper-making. **Iron** and other ores are also exported.

The chief town is **Algiers** (97,000) on the Mediterranean, which is connected by railway with **Oran,** another port to the west, and **Constantine** in the interior to the east.

The roads of Algeria are excellent.

**Tunis,** formerly a province of Turkey, but now under French protection, lies east of Morocco. It is about one-fourth the size of Algeria, but its chief city **Tunis** (170,000 inhabitants) is larger than any Algerian town, and is the most important African port on the Mediterranean.

The ruins of ancient Carthage are about 10 miles from the city of Tunis.

**Esparto grass, olive oil, ores, sponges, cattle,** and **grain** are the chief exports.

**Tripoli** (398,900 square miles), a Turkish province, between Tunis and Egypt, is mostly a sand-covered waste. With about 800 miles of coast it has only one port, **Tripoli,** a great caravan terminus, which exports **ostrich feathers, ivory,** and **skins** from the Sudan.

In the Sahara, to the south, are a cluster of oases, forming a district called **Fezzan,** through which caravans to and from the Sudan pass.

## EGYPT AND THE EGYPTIAN SUDAN.

### I. Introductory.

**Egypt,** nominally a dependency of Turkey, but with a ruler of its own called the Khedive, is now occupied by Great Britain.

On the **north** it has a coast line of about 600 miles on the Mediterranean, the eastern portion of which includes the delta of the Nile; on the **east** it is bounded by the Red Sea, which is joined by the Suez Canal to the Mediterranean; on the **west** is the Libyan Desert containing a few oases; on the **south** is the Egyptian Sudan, extending nearly as far as the Equator. This territory was from 1884 to 1898 in the possession of tribes of Dervishes who revolted under the leadership of the "Mahdi."

## II. Population.

The population of Egypt numbers about 10,000,000, but the greater part of it is congregated over the Nile delta, and the fertile lands along the banks of the Nile, which comprise a cultivated area of only some 10,000 to 13,000 square miles.

## III. Irrigation.

The cultivation of this area is dependent in Southern or Upper Egypt entirely upon the overflow of the Nile. This occurs annually from June to September, and is caused by the monsoon rains on the highlands of Abyssinia and the equatorial rains of the south

The waters, which at Cairo rise 25 feet, carry with them and spread over the country along the Nile banks a vast amount of rich soil.

In Northern or Lower Egypt, a system of permanent irrigation by means of canals has been followed for about 100 years, and has been much extended since the British occupied the country.

The great dam, which will form permanent reservoirs, constructed by English engineers near Assuan, will enable Upper Egypt to be irrigated during low Nile, and double the area of cultivable land.

## IV. Climate and Products.

CLIMATE—

The climate is hot and dry. The rainfall at Alexandria is about 8 inches per annum ; at Cairo about 1⅓ inches ; further inland there is no rainfall.

PRODUCTS —

The chief products are **cotton** and **grain**, which are largely exported, **sugar, beans,** and **flax.**

Few trees except the **date palm** are found.

Cigarettes, made chiefly from foreign tobacco, are a considerable export.

## V. Means of Communication.

WATERWAYS—

The **Suez Canal,** completed in 1869, extends from Port Said on the Mediterranean to Suez on the Gulf of Suez in the Red Sea, and is 87 miles in length. This is the route followed by nearly all the steamer traffic between Europe and Asia, and between Europe and Australia; more than 3000 steamers pass yearly, two-thirds of them being British

Electric light enables the passage to be made by night.

RAILWAYS—

A railway connects Cairo with Port Said, Alexandria, and Suez. A line also runs up the Nile valley from Cairo to Khartum.

## VI. People and Government.

RACES AND RELIGIONS—

The inhabitants are mostly of **Arab** descent, and of the **Muhammadan** religion.

The cultivators are called **Fellahin.**

The ancient Egyptians have left some descendants called **Kopts,** who profess Christianity.

Egypt also contains **Berbers** and nomadic **Bedouins.**

GOVERNMENT—

Egypt, though nominally subject to the Sultan, is practically an independent state ruled by the Khedive and his ministers. Since the military revolt of 1882 the administration of the country has been mainly under British control, with the result that Egypt has made wonderful progress in the direction of material prosperity. The country is now solvent, her army has been reorganised and made efficient, great public works have been set on foot, and the condition of the Fellahin has been greatly ameliorated. In fact, a new Egypt has been called into existence.

## VII. Towns.

**Cairo** (570,000), the capital, at the head of the Delta, is the largest city in Africa To the south of Cairo are situated the three great pyramids of Ghizeh

**Alexandria** (320,000), at the western extremity of the Delta, is the chief port and seat of commerce.

**Tantah** (57,000), in the centre of the Delta, is the largest town in it.

**Port Said** (42,000) and **Suez** are of importance as the northern and southern termini of the Suez Canal.

**Assiut** and **Assuan,** a little below the First Cataract, are the principal towns of Upper Egypt.

The grand ruins of the ancient city of **Thebes** and of the temples of **Karnac** and **Luxor** are between Assiut and Assuan.

The **Egyptian Sudan** extends southwards to within a few degrees of the Equator. It is under the rule of a Governor-General, who controls the joint British and Egyptian administration.

The people are **Negroes**, or of mixed Arab and Negro descent. They rear flocks of sheep and camels, their principal food plants are "**Durra**" (millet) and **dates**.

**Khartum**, the capital, stands on the Nile, at its junction with the Blue Nile; it was here that General Gordon met his death in 1885, while defending the town against the forces of the Mahdi. The town was retaken in 1898, and is being rapidly rebuilt.

**Omdurman**, the former rebel capital, is on the White Nile, near Khartum.

**Suakin**, the only port, **Wady Halfa, New Dongola, El Obeid, Senaar, Kassala**, and **Fashoda**, on the Upper Nile, are also noteworthy.

## THE SAHARA.

The **Sahara**, the greatest desert in the world, extends from the shores of the Atlantic on the west, to the Nile valley on the east. It is really a continuation of the great desert belt which extends across Arabia and into the heart of Asia.

Very little rain falls, and the climate is extremely hot and dry, except in the higher lands, which rise in places to 3000 or 4000 feet.

Caravans of Arabs travel by camel from oasis to oasis. Salt is exported to the Sudan.

## THE SUDAN.[1]

This section of Africa lies south of the Sahara, between Senegambia on the west and the Nile on the east. There is a sufficient rainfall, and the country is fertile and thickly populated.

The inhabitants are mainly **Negroes**, but **Arabs** and **Fulas** are the ruling races, and the great traders of the country.

The latter have founded several powerful states in the Niger basin, of which **Sokoto** is the chief, while **Bornu** on the eastern side of Lake Chad, is the most powerful Negro state.

The best known town in the Sudan is **Timbuktu**, near the most northerly point of the Niger: it is the centre of caravan traffic with North Africa.

Slave raids by the Arabs are a great hindrance to the civilization of the Sudan.

The chief occupations are agriculture and cattle-rearing.

**Durra, maize, rice**, and **cotton** are extensively grown.

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[1] The Country of the Blacks.

## II. WEST AFRICA.

Along the whole of the western coast from the river Senegal to Cape Frio, different nations of Europe, **French, English, Germans,** and **Portuguese,** have established colonies and protectorates, many of them having extensive **hinterlands,** *i.e.* inland regions behind the seaboard, over which they claim jurisdiction.

The **French** have settlements, the chief of which is **St. Louis,** extending along the Senegal, as the **French Sudan,** to the Upper Niger.

The **British** occupy the valley of the Gambia, with **Bathurst** as the chief settlement

South of these two districts, which together are known as **Senegambia,** comes **Upper Guinea.** Along this coast are the British Crown Colonies of **Sierra Leone,** with **Freetown** as its chief town; the **Gold Coast** with **Cape Coast Castle,** the former capital, and **Accra,** the present capital and chief port; and **Lagos,** with the Protectorates of **Southern** and **Northern Nigeria,** occupying the basins of the Niger and Benue as far as Lake Chad

**Portuguese Guinea** is immediately south of Gambia. Then comes **French Guinea,** running inland to the vast hinterland of the French Sudan, which also extends south to the **Ivory Coast.**

Between Sierra Leone, which lies south of French Guinea, and the Ivory Coast is the state of **Liberia,** capital **Monrovia,** occupied by the descendants of liberated slaves from America. East of the Gold Coast is the German **Togoland,** between which and Lagos is **Dahomey,** now less bloodthirsty and barbarous under French control, which extends inland to the French Sudan. **Ashanti,** the warlike negro state of the British Gold Coast, is now being pacified, after a serious outbreak in which the British Resident was besieged in the capital, **Kumasi.**

**Lower Guinea** includes (1) **Kamerun** (German); (2) **French Congo**; (3) the coast of the **Congo Free State**; and (4) **Portuguese West Africa.**

**Kamerun** extends inland from the Bight of Biafra to the shores of Lake Chad.

**French Congo** lies between Kamerun and the river Congo, and French influence extends across the continent to the borders of the Egyptian Sudan.

The **Congo Free State** has a narrow strip of coast, but broadens out eastward both north and south of the equator until it touches the region of the equatorial lakes; it occupies a circular depression in the African plateau, and rarely reaches 2000 feet in elevation. It is under Belgian administration. The chief settlement is **Boma**, a port at the mouth of the Congo. **Leopoldville**, or **Stanley Pool**, is the chief river port

The **Portuguese** exercise a protectorate over country extending from the mouth of the Congo to **Cape Frio** on the coast, and inland as far as the Upper Zambesi.

The chief port and capital is **Loanda.**

The principal trade of the territories is in **palm oil** (used for greasing railway carriage wheels and for making soap), **rubber, gold, ivory,** and **gums.**

## III. SOUTH AFRICA.

BRITISH SOUTH AFRICA comprises the **Colonies** and **Protectorates** which are under the authority of an official appointed by the British Government, and known as "High Commissioner for South Africa"

The **Colonies** are **Cape Colony, Natal, Basutoland,** the **Orange River Colony,** and the **Transvaal Colony.**

The **Protectorates** are **Bechuanaland** and **Rhodesia.**

### COLONIES.

**Cape Colony** (221,000 square miles) comprises the narrow southern end of Africa south of the Orange River, from west coast to east, and a northward extension beyond the Orange River in the centre, which was formerly part of Bechuanaland.

The land rises from the coast to the main plateau, or **High Veldt,** in terraces called "**Karoos.**"

Three mountain ranges, the **Langberg,** the **Zwarte Berg,** and the **Nieuweveld** run east and west, one behind the other, until a height of 4000 feet is reached. The "**Great Karoo,**" 300 miles long by 60 to 70 broad, is between the Zwarte Berg and the Nieuweveld.

From the Nieuweveld the ground gradually slopes downwards to the **Orange River,** beyond which is the **Kalahari Desert,** extending northwards for 1000 miles.

The Nieuweveld is continued to the north-east as the **Drakensberg** range.

CLIMATE—

The air is clear and dry, and the climate for the most part healthy. The west coast is deficient in rainfall, having an average of only about 2 inches in the year. The summer season lasts from November to March

PRODUCTS —

**Sheep-rearing** is the most important industry, and **wool** and **goat's hair** two of the principal exports

**Ostriches** also are reared for their feathers

INDUSTRIES—

The **diamond fields** of Griqua Land West are the richest in the world, and **copper ore** is found and exported.

TOWNS—

**Cape Town** (51,000), the capital, a fine city, with a great trade, is situated at the foot of Table Mountain.

**Port Elizabeth** (23,000), on Algoa Bay, is the second port.

**East London**, on the south-east coast, is a rising port

**Kimberley** (28,700) is the chief centre of the diamond fields.

**Vryburg** and **Mafeking** are towns on the railway north of Kimberley.

A railway extends from Cape Town across the Great Karoo, through the diamond fields and Bechuanaland to Rhodesia, and another line connects Port Elizabeth and East London with the Orange River Colony and the Transvaal.

The European colonists are chiefly of British, Dutch, or German descent.

The chief native races are **Hottentots** and **Bushmen** The population is 2 350,000, of whom two-thirds are natives.

**Cape Colony** is self-governing, with two Houses of Parliament and a Governor, who is also High Commissioner for the whole of British South Africa.

**Natal** on the east coast, including Zululand, is about 29,000 square miles, and has a population of nearly a million; of these more than 60,000 are European colonists, 70,000 are Indian coolies and traders, and the rest are different tribes of **Bantus**, a tall, athletic, warlike race, principally **Zulus**.

A low strip along the coast grows **sugar** and **tea**, and on the higher terraces **sheep**, **cattle**, and **ostriches** are reared.

The chief crop is "**mealies**," or Indian corn.

The capital is **Pietermaritzburg** (28,500), which is connected by rail with the chief port **Durban** (48,000), with the coalfields near **Dundee** in the north, and with the Transvaal.

**Ladysmith**, famous for its unsuccessful siege by the Boers in the year 1900, is a small town on the River Tugela, near the Drakensberg Mountains.

Like Cape Colony, Natal has two Houses of Parliament and a Governor.

**Basutoland**, on the north-east of Cape Colony, is a mountainous and fertile district, inhabited chiefly by natives, who rear immense herds of cattle.

It is the best grain-growing country in South Africa.

The two republics, the Orange Free State and the Transvaal, founded by Dutch settlers, or **Boers**, from Cape Colony, were annexed by the British in 1900, and became the Orange River Colony and Transvaal Colony respectively.

The **Orange River Colony** (48,000 square miles), lying between the Orange River and the Vaal, is chiefly a pastoral country with a dry, healthy climate. **Gold, diamonds,** and **coal** are found.

**Bloemfontein** (12,000), its chief town, is connected by railway with Cape Town, and with Johannesburg and Pretoria.

The **Transvaal Colony,** 120,000 square miles, about the same size as the United Kingdom, lies between the Vaal and the Limpopo. Its natural resources are in some ways greater than those of any other South African colony.

**Wheat, tobacco,** and a variety of **fruits** are grown, and the rich pasture lands feed horses, cattle, and sheep.

One of the richest **goldfields** in the world is in the neighbourhood of **Johannesburg** (105,000), the largest town in the colony.

The mines are worked by foreigners, mostly English, whom the Boers called "**Uitlanders**" (*i.e* "Outlanders = foreigners").

**Pretoria** (10,000) is the capital, but Johannesburg is the present seat of Government.

In 1877 Great Britain annexed the Transvaal, but granted it independence again in 1881, except as regards its relations with foreign powers. Owing to the oppression of the Uitlanders by the Transvaal Government war broke out in 1899, and the country was re-annexed in 1900.

## PROTECTORATES.

**Bechuanaland Protectorate,** a dry and arid land, stretches northward from Cape Colony across the southern tropical line. Its chief products are **maize** and **hides.**

**Rhodesia** lies north of Bechuanaland and the Transvaal. The Zambesi divides it into Northern and Southern Rhodesia. On the south side of the river are **Matabeleland** and **Mashonaland**, about 4000 feet above the sea. They are fertile, well-watered districts, rich in minerals, especially **gold.**

**Salisbury**, in Mashonaland, is now the seat of the administration.

**Buluwayo**, the old capital of Matabeleland, is connected by railway with Cape Town and with Salisbury, and is a rapidly growing European town.

German West Africa extends south from Cape Frio to the Orange River, and inland to the Kalahari desert **Great Windhoek** is the chief station.

There is a small British settlement on **Walfish Bay**, at about the middle of the German coast.

## IV. EAST AFRICA.

East Africa consists of British Central Africa, the protectorates established by various powers along the east coast north of the Tropic of Capricorn, Abyssinia, and Eritrea.

**British Central Africa** extends north of the Zambesi as far as **Lake Tanganyika.** A part of this district west and south of Lake Nyassa, is sometimes called **Nyassaland.**

The country further west, including Lake Bangweolo, is in Northern Rhodesia.

**Coffee, ivory, rubber**, and **tobacco** are the chief products.

**Blantyre** is the principal European settlement.

**Zomba** is the seat of Government.

**Portuguese East Africa** stretches along the coast from Delagoa Bay northwards to Cape Delgado, and westwards along both banks of the Zambesi until bounded by the Transvaal, Rhodesia, and British Central Africa.

**Mozambique**, a name sometimes also given to the whole country, is the chief port north of the Zambesi.

The port of **Lourenço Marques**, on Delagoa Bay, is connected by railway with the Transvaal. **Quelimane**, on the delta of the Zambesi, and **Beira**, the port for Southern Rhodesia, are also important.

**German East Africa** occupies the coast from Cape Delgado to a point north of the island of Zanzibar, and the interior as far westwards as the three great lakes.

It contains Kilima Njaro, the second peak in Africa. The country is as yet undeveloped; the principal products are **ivory** and **rubber**. **Ujiji**, on Tanganyika, is a trade centre.

**Dar-es-Salaam**, the seat of administration, has one of the best harbours on the east coast of Africa.

**British East Africa** comprises the island of **Zanzibar**, the residence of the Sultan of Zanzibar, and all that is left of his Sultanate, and the coast as far as the mouth of the **River Juba** on the Equator. Inland, this territory stretches to the borders of the Congo Free State and along the Upper Nile Valley.

**Uganda** is a large district in the interior, between Lake Victoria Nyanza and Lake Albert Nyanza, to which a railway from the port of **Mombassa** has been made.

Without railways little development of the country is possible, as the great expense of conveying goods by coolies 600 miles to the coast is prohibitive of trade

**Zanzibar** (50,000), on the island of that name, is the largest city and the chief port and trade-centre of East Africa. Many Indian merchants of Bombay have houses of business, and do most of the trade.

**Somaliland**, the "Eastern Horn of Africa," comprises the seaboard along the Gulf of Aden and south of Cape Guardafui.

The latter portion is an Italian protectorate; along the Gulf of Aden are British and French Somaliland.

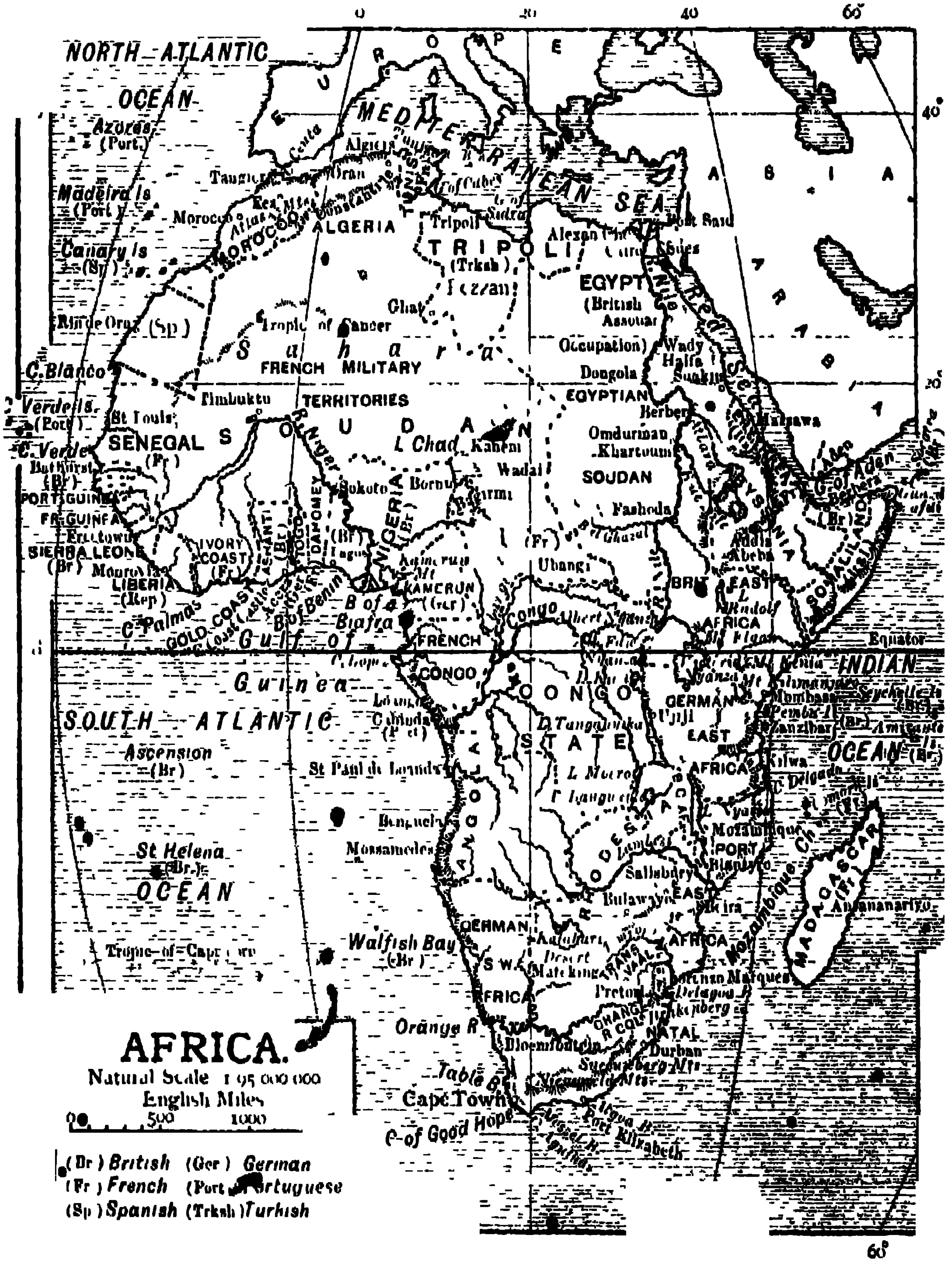
**Berbera** is the chief port of British Somaliland, and carries on a considerable trade with **Harrar** in Abyssinia. **Jibuti** is the port of French Somaliland. Many Somalis ship as firemen on board British steamers, and are known as "Seedee boys."

**Abyssinia** lies to the south and south-east of the Egyptian Sudan. It is very mountainous, having an average elevation of 5000 feet, with heights rising to 15,000 feet, and contains numerous plateaux, separated from each other by precipitous gorges.

The **Blue Nile**, flowing from **Lake Tsana**, and the **Atbara** descend from these highlands to join the Nile.

The climate is mild, and the soil in some parts so fertile that three crops can be raised in the course of the year.

**Cotton, sugar,** and **coffee** are cultivated, but there is no foreign trade.



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There are no towns of any great size; those worth mention are:

**Addis Abeba**, the capital, and the residence of the **Negus**, or Emperor

**Gondar**, the capital of ancient Ethiopia, **Adowa**, and **Harrar**, a trade centre near the Somali frontier, are noteworthy places.

**Magdala**, a hill fortress, was captured by Sir R. Napier (afterwards Lord Napier of Magdala) in 1868, in order to release some European captives.

The original Abyssinians are of Arab descent, but are now largely intermixed with **Gallas**, from Gallaland on the south.

**Eritrea**, a strip of seaboard along the south-western shore of the Red Sea, is an Italian Protectorate.

**Massowa**, the capital, and a port on the Red Sea, has a trade in salt, which is of importance because salt passes as money in Southern Abyssinia.

## V. AFRICAN ISLANDS.

Most of the islands outlying Africa are of volcanic formation and are mountainous. Like the mainland of the African continent, they are now under the dominion of various European powers.

### ISLANDS IN THE ATLANTIC OCEAN.

The **Azores** (Portuguese) lie north of the most northerly point of Africa, being in the same latitude as the south of Portugal, and about 800 miles west of it.

They consist of a scattered group of nine islands. They are well watered and fertile, and produce various fruits (especially the famous St. Michael **oranges**), **wines**, and **tobacco**.

**Madeira** (Portuguese), lying east of Morocco, is a famous health resort for Europeans during their winter, as the air is always mild and the temperature varies but little.

It exports **wine, sugar**, and **fruits**.

The chief town is **Funchal** (19,000).

The **Canaries** (Spanish) lie south of Madeira, the nearest of them being within 60 miles of the south coast of Morocco.

**Tenerife** is the chief island, with its famous volcanic Peak, 12,000 feet high.

**Santa Cruz** in Tenerife, and **Las Palmas** in Gran Canaria, are the principal towns, both being coaling stations for Atlantic steamers.

The **Cape Verde Islands** (Portuguese) lie about 350 miles to the west of Cape Verde.

**Praia** is the capital, and **Mindello**, on St. Vincent Island, the principal port, is a place of call for steamers.

In the Gulf of Guinea there are several small islands, the largest being **Fernando Po** (Spanish).

**Ascension** and **St. Helena** (both British) lie south of the Equator, far from the coast. St. Helena is famous as having been the place of exile of Napoleon Buonaparte, who died there in 1821.

## ISLANDS IN THE INDIAN OCEAN.

**Madagascar** (recently annexed by the French), nearly three times as large as Great Britain, is cut off from the African mainland by the deep Mozambique Channel, 250 miles wide at its narrowest part.

A range of volcanic mountains runs through the interior from north to south, rising in places to 9000 feet.

The highlands have a healthy and temperate climate, but the coast is moist and unhealthy.

The capital is **Antananarivo**, and the chief port **Tamatavé**.

The dominant natives of the island are called **Hovas**, and are of Malay descent.

The chief products are **cattle**, **hides**, **gum**, **bees-wax**, **sugar**, **vanilla**, **coffee**, and **rice**. **Minerals** are abundant.

The **Comoro Islands** (French) are a group of small islands lying in the Mozambique Channel.

**Mauritius** (British) lies about 500 miles due east of Madagascar. It is a small fertile island with a plentiful rainfall; it is thickly wooded on the mountainous parts, but the lower lands have been cleared for the planting of sugar, which is cultivated mainly by the labour of Indian coolies imported from Calcutta.

**Sugar** forms the main export.

The capital is **Port Louis** (54,000).

**Réunion** (French), to the south-west of Mauritius, also grows **sugar**.

These two islands are the most important as regards commerce of all the African islands.

The **Seychelles**, 1000 miles to the north of Mauritius, produce coco-nut oil and vanilla.

**Sokotra** (British), a small island north-east of Cape Guardafui, is a dependency of the Government of Bombay.

The chief products are **aloes, dates, gums,** and **ghee.**

### QUESTIONS.

1. What differences of relief distinguish North from South Africa? Africa has been compared to "an inverted saucer." How far is this comparison justified?

2. Locate the extreme points of Africa. Make a list, from the map, of other prominent capes. Describe the Guinea Coast.

3. In what countries of Africa are the greatest heights above sea-level found? Name them.

4. Describe the course—(1) of the largest river, (2) of the longest river. Which of the African rivers enter the sea by a delta? Why is it that most of the rivers of Africa have their lower courses broken by falls and rapids?

5. Describe the great freshwater lakes of Africa. Which of them feed rivers?

6. How does Africa compare with other continents as regards rainfall? What is the general nature of the climate of the coastlands?

7. Mention some characteristic African animals, and say what sort of country they inhabit. Where is the tse-tse fly found?

8. What is the commonest food-crop (1) in North Africa, (2) in South Africa? Mention other important vegetable products.

9. Where are the negroes proper found? What are Bantus, Somalis, and Hottentots?

10. Make a list from the map, in order from north to south, of the different portions of the east and west coasts occupied by European powers. What countries occupy the Grain Coast, the Gold Coast, the Slave Coast, and the Ivory Coast?

11. What are the Barbary States? Name their principal products, and locate their capitals.

12. Why is Egypt so essentially the country of the Nile? Name the principal towns of Egypt and of the Egyptian Sudan. Which of them are not on the Nile?

13. Distinguish the Sahara from the Sudan in regard to (1) surface, (2) climate, (3) inhabitants.

14. Name the characteristic products of the west coast of Africa.

15. What colonies and protectorates constitute British South Africa? Give the situation, principal products, and chief towns of each.

16. Describe the principal divisions of East Africa.

17. Why are railways essential for the development of Africa? Describe the route of the proposed Cape-to-Cairo railway.

## EXAMINATION PAPERS ON AFRICA.

### I.

1. Draw a sketch-map of Africa, and insert Cape Town, Port Elizabeth, Kimberley, Durban, Pretoria, Johannesburg, Lourenço Marques; the Niger, Zambesi, and Orange River; the Atlas and the Drakensberg; Cape Agulhas, Walfish Bay, and the island of Zanzibar.

2 How are the following states governed:—Abyssinia, Egypt, Tunis, Algeria, Liberia, and give the capital of each?

3. Name in order, from north to south, the great lakes of Africa. Which of them might be used as part of a through route from the Cape to Egypt?

4 (*a*) Where are Ascension Island, the Seychelles, and St. Helena? What do you know about them? (*b*) Mention the possessions of the United Kingdom on the West Coast of Africa.

5. What are the chief exports of Africa? For what purpose is each most used?

6. What and where are Accra, Sokotra, Cape Coast Castle, Massowa, Timbuktu, Uganda, Suez, Khartum, Assuan, Mombassa, Alexandria?

### II.

1. Give a brief description of the British protectorates on the east coast of Africa.

2. Give some account of the Drakensberg Mountains, the Kalahari Desert, Mount Kenia, Stanley Pool, Lake Tanganyika, the Victoria Falls.

3. Draw an outline map of Africa north of the equator, showing the European nation to whose rule or influence each part of the country is subject.

4. What is meant by the statement that within the tropics the rain follows the sun? How does the rise of the Nile illustrate this?

5. State what you know of the physical and commercial geography of Cape Colony.

6. What and where are Suakin, Fez, Loanda, Salisbury, Quilimane, Beira, Dar-es-Salaam, Tamatave, Las Palmas, Bloemfontein, Harrar, and Fashoda?

# AMERICA.

**America**, or the **New World**, is the great division of the globe which occupies the Western Hemisphere from the Arctic Ocean to the borders of the Antarctic, and which separates the Atlantic Ocean from the Pacific Ocean.

> Unlike the **Old World**, whose greatest extent is in longitude, and whose main mountain systems have a general east and west direction, the greatest extent of the New World is in latitude, and its main mountain systems run north and south

America consists of two triangular land-masses--the continents of North and South America The geographical division between the two continents is at the Isthmus of Panama, which, where narrowest, is only 31 miles across

> The narrow land to the north of Panama, between the two great mainland masses, is generally known as **Central America.**
>
> South America lies considerably further east than North America. The meridian of 280° E., or 80° W., which barely cuts the extreme west of South America, passes east of the Gulf of Mexico and the Peninsula of Florida, cuts the east coast of North America, and has the largest of the Canadian lakes, most of Hudson Bay, and consequently the great bulk of North America, to the west of it.

The two American continents have several remarkable points of resemblance. Both have a principal highland region running near the west or Pacific coast, and both have a minor highland region on the Atlantic or east side of the continent. Between these two highland regions is, in each case, a great region of lowland plain. In consequence of the similarity of relief, the great rivers of both continents either flow from west to east, like the St. Lawrence and the Amazon, or flow north and south along the central lowlands, like the Mississippi and the Parana.

Again, there are resemblances of climate. In the temperate latitudes of both continents the great mountain ranges of the west arrest the moist winds from the Pacific, causing large areas to the east of these ranges to have a very low rainfall, while in the southern tropics, where the easterly trade winds prevail, some parts of the Pacific coast are practically rainless.

On the other hand there are some remarkable contrasts between the two continents, due to the fact that they are broadest in very different latitudes North America is broadest above lat. 60° N., and accordingly enormous areas have an arctic climate and are almost uninhabitable, while the broadest part of South America, which is nearly under the equator, is covered with the most luxuriant tropical vegetation in the world.

The total **area** of America, about 15 millions of square miles, is somewhat less than that of Asia, and is about equal to that of Europe and Africa together.

# NORTH AMERICA.

## I. Geographical Situation.

The northern continent of the New World extends from seven degrees north of the equator to within seven degrees of the North Pole.

The extreme points of the mainland are :—

North . **Point Murchison**, at the end of the Boothia Peninsula west of Hudson Bay ; lat 71° 50′ N. **Cape Barrow** in Alaska is almost as far north.

South . **Punta Puercos**, in the Panama Isthmus ; lat 7° 15′ N.

West **Cape Prince of Wales**, on Bering Strait in Alaska ; long. 158° W.

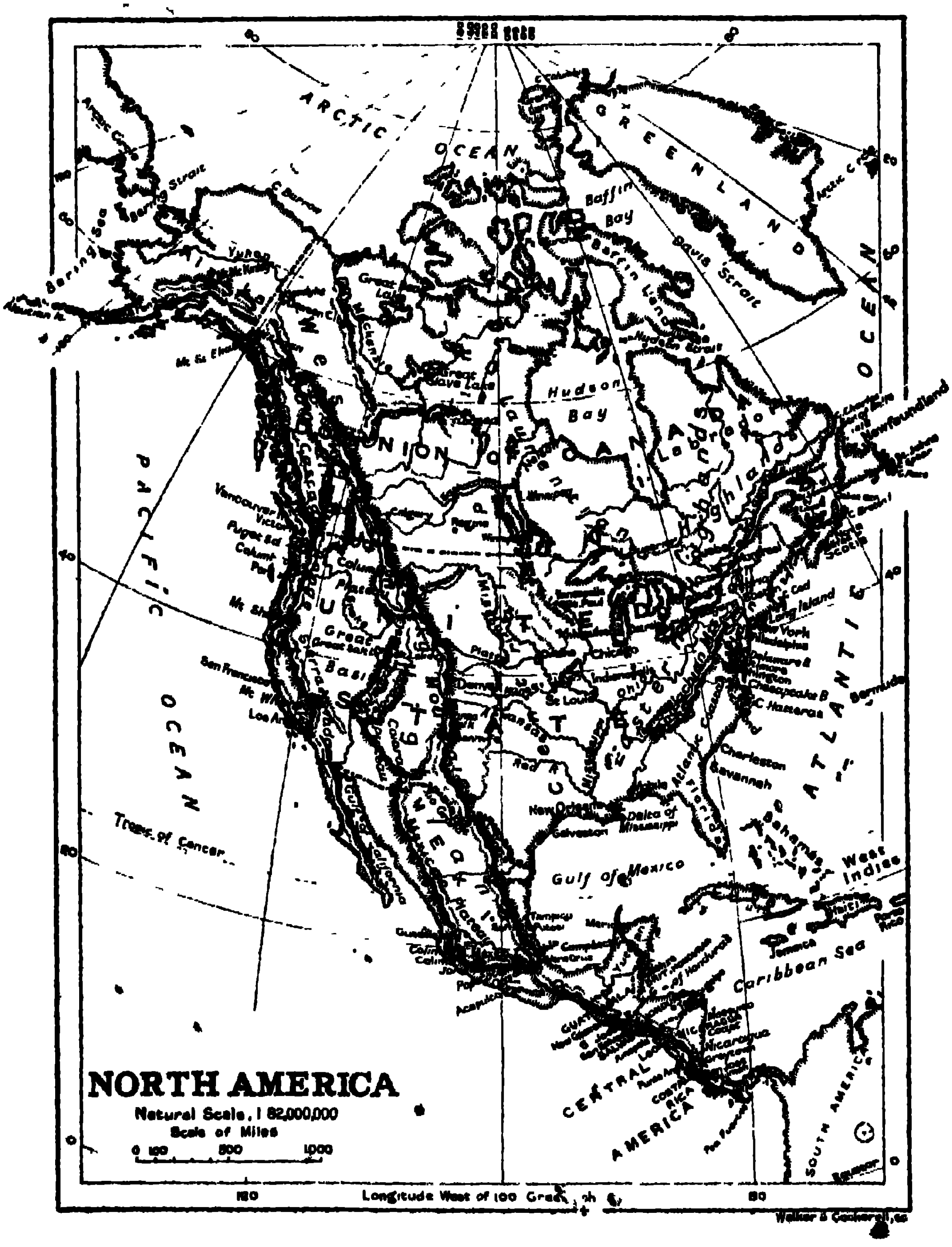
East **Cape Charles**, in Labrador ; long. 55° 37′ W.

Point Murchison is very little further north than North Cape in Europe, and not so far north as the extreme north point of Asia But **Cape Columbia**, the most northerly point of Grant Land, to the west of Greenland, is lat. 83° 5′ N., within three degrees of the furthest north reached by Nansen.

**Cape Spear**, in Newfoundland, the nearest point to Europe, is long. 52° 32′ W.

## II. Size and Shape.

North America is a triangle, broadest in the north. Its


NORTH AMERICA
Natural Scale, 1 82,000,000
Scale of Miles
0 100 500 1000
Longitude West of 100 Greenwich
120
80
ARCTIC OCEAN
GREENLAND
Baffin Bay
Baffin Land
Davis Strait
Hudson Strait
Hudson Bay
Labrador
Newfoundland
ATLANTIC OCEAN
PACIFIC OCEAN
Bering Strait
Bering Sea
Yukon
Great Bear Lake
Great Slave Lake
Mackenzie
DOMINION OF CANADA
Vancouver I.
Victoria
Puget Sd.
Columbia
San Francisco
Los Angeles
Great Basin
Great Salt L.
UNITED STATES
Chicago
St Louis
Denver
Ohio
Red R.
New Orleans
Galveston
Delta of Mississippi
Charleston
Savannah
C. Hatteras
Chesapeake B.
Delaware B.
Philadelphia
New York
Long Island
C. Cod
Nova Scotia
Bermuda
Bahamas
Florida
Gulf of Mexico
West Indies
Caribbean Sea
Jamaica
Tropic of Cancer
MEXICO
Gulf of California
Tampico
Vera Cruz
Acapulco
Campeche
CENTRAL AMERICA
Nicaragua
COSTA RICA
SOUTH AMERICA
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vertex at the south of Mexico is continued in a south-east curve through Central America to the Isthmus of Panama.

The greatest length, from Cape Barrow to Panama, is over 4,000 miles, and the greatest breadth is over 3,000 miles.

The area of the mainland is about eight million square miles, more than twice the size of Europe; but including Greenland and the Arctic Archipelago, the area of North America exceeds nine million square miles.

## III. Boundaries.

On the North: the Arctic Ocean and the Atlantic Ocean.

On the East: the Atlantic Ocean, the Gulf of Mexico, and the Caribbean Sea

On the West: the Pacific Ocean.

## IV. Coasts.

**North Coast.**—West of the vast peninsula of **Labrador** is the deep indentation known as **Hudson Bay**, an inland sea which is only free from ice for a few months in the year. **Hudson Strait** connects it with the Atlantic.

Closing the mouth of Hudson Bay is **Baffin Land**, the largest island of the Archipelago which blocks the entrance to the Arctic Ocean between Greenland and the American mainland.

Baffin Land is separated from **Greenland**, the largest island in the world, by **Davis Strait** and the channel known as **Baffin Bay**.

Many of the names of the islands and channels of this arctic archipelago commemorate the various explorers who tried to make the North-west Passage to India by sailing along the northern coast from the Atlantic to the Pacific.

In the extreme north-west **Alaska** projects towards **Asia**, from which it is separated by **Bering Strait** and **Bering Sea**. The small peninsula in the south of Alaska, called the **Alaska Peninsula**, is continued by the chain of the **Aleutian Islands** to form the southern boundary of Bering Sea.

**West Coast.**—The northern part is steep and rocky, broken by fiords and fringed with islands, of which the largest is **Vancouver**. Further south the coast is regular. The greatest indentation is the long and narrow **Gulf of California**, which runs inland parallel to the general direction of the coast.

**East Coast.**—The **Gulf of Mexico** is a widely curving indentation terminating in the peninsulas of **Florida** and **Yucatan**. From the mouth of the gulf **Cuba** and the larger islands of the **West Indies** run eastward, and cut off the **Caribbean Sea** from the Atlantic.

North of the Gulf of Mexico the east coast is low and flat as far as **Cape Cod.** It then becomes broken and rocky, with many islands. The peninsula of **Nova Scotia** encloses the **Bay of Fundy** between itself and the mainland.

North of Nova Scotia opens the **Gulf of St. Lawrence,** which terminates in the estuary of the River St. Lawrence. At the mouth of the gulf is the large island of **Newfoundland,** south of which, across **Cabot Strait,** is **Cape Breton Island.** Inside the gulf are **Prince Edward Island** and **Anticosti.**

## V. Relief.

North America has four main natural divisions: (1) The Western Highlands, (2) the Central Plain, (3) the Eastern Highlands, (4) the Atlantic Coastal Plain.

1. The **Western Highlands** are a system of mountain ranges and plateaux extending from Alaska to the south of Mexico. They are widest in lat 40° N., where they occupy about one-third of the continent.

MOUNTAINS—

The highest mountains of the continent are found at the northern and southern ends of this system. **Mount M'Kinley** (20,500 feet), in Alaska, is the highest mountain in North America. **Mount Logan** (19,500 feet) and **Mount St. Elias** (18,000 feet) are volcanic peaks in the coast range on the borders of Alaska. **Orizaba** (18,300 feet) and **Popocatepetl** (17,800 feet) are active volcanoes in Mexico.

The **Rocky Mountains** are the main chain of the Western Highlands, and run along its eastern border through Canada and the United States.

The **Cascade Range** and its southern continuation, the **Sierra Nevada,** are the principal ranges on the western border. All these ranges have peaks of over 14,000 feet. Lower ranges run along the Pacific coast.

PLATEAUX—

Lying between the border ranges are plateaux and mountain basins, which, in the widest part of the Western Highlands, are of considerable extent.

The largest, in order from north to south, are the **Columbia Plateau,** in the north of the United States, the **Great Basin,** the **Colorado Plateau,** and the **Mexican Plateau.**

2. The **Central Plain** occupies the middle of the continent from the Arctic Ocean to the Gulf of Mexico. It is crossed by a low water-parting. North of this water-parting the drainage flows to the Arctic Ocean; south of it to the Gulf of Mexico.

3. The **Eastern Highlands** are divided into two parts by the River St Lawrence.

To the north the **Laurentian Highlands** form a curve round Hudson Bay, extending from Labrador in the east to the neighbourhood of the Arctic Ocean in the west

South of the St Lawrence the **Appalachian Highlands** extend from the Gulf of St Lawrence nearly to the Gulf of Mexico. The principal ranges, known as the Appalachian Mountains, nowhere rise above 7000 feet.

4. The **Atlantic Coastal Plain** is the strip of lowland between the Appalachian Mountains and the Atlantic. It extends from the Gulf of St Lawrence to Florida.

## VI. Rivers and Lakes.

The principal rivers of North America are the **Mississippi-Missouri, St. Lawrence, Yukon, Mackenzie, Colorado, Rio Grande del Norte, Nelson, Columbia**

The **Mississippi** proper rises nearly 2500 miles from the sea, in the low water-parting which crosses the central lowlands. Its great tributary, the **Missouri**, which rises in the Rocky Mountains, has an independent course of nearly 3000 miles Hence the total length of the Mississippi-Missouri is over 4000 miles, which makes it the longest river in the world. Three of its tributaries, the **Ohio** from the Appalachians, the **Arkansas** from the Rocky Mountains, and the **Red River** from below the western highlands, are nearly as long as the Ganges. The combined waters of these great rivers enter the Gulf of Mexico by a delta below New Orleans

The **St. Lawrence** (2200 miles) rises near the source of the Mississippi, flows through the great lakes, and after passing Montreal and Quebec, enters the Gulf of St. Lawrence by a wide estuary

The **Yukon** (2000 miles) rises in the north of the western highlands, and flows through Alaska to the Bering Sea.

The **Mackenzie** (2000 miles) flows north from Lake Athabasca to the Great Slave Lake, and then north-west to the Arctic Ocean.

The **Colorado** (2000 miles) flows from the Rocky Mountains across the Colorado Plateau to the head of the Gulf of California. In its course across the plateau it has cut for itself a series of wonderful channels through the rock, called **cañons**, which are in some places a mile deep.

The **Rio Grande del Norte** (1800 miles) rises near Blanca Peak in the Rocky Mountains, flows south and then south-east to the Gulf of Mexico.

The **Nelson** (1700 miles) issues from Lake Winnipeg, which is fed by the **Saskatchewan**, the **Red River of the North**, and the **Winnipeg**, and then flows north-east to Hudson Bay.

The **Columbia** (1400 miles) rises in the Rocky Mountains, and flows across the Columbia Plateau to the Pacific.

LAKES—

The chain of great lakes in the valley of the St. Lawrence, on the borders of Canada and the United States, is the largest system of fresh-water lakes in the world. The principal members of the chain, Lakes Superior, Michigan, Huron, Erie, and Ontario, diminish in size in the order given. The two last, which are much smaller than the others, are connected by the River Niagara, famous for its falls.

Lake Superior (31,000 square miles), larger than Scotland, is the largest body of fresh water in the world.

Further north and north-west, along the outer edge of the Laurentian Highlands, is a lake system resembling that of Finland; but Lakes Winnipeg, Athabasca, the Great Slave Lake, and the Great Bear Lake are much larger than any Finnish lakes. The last three feed the Mackenzie River.

The Great Salt Lake and other lakes in the Great Basin of the western highlands belong to a system of inland drainage.

## VII. Climate.

The climate of the greater part of North America is of the extreme or continental type. The absence of mountain ranges running east and west leaves the whole of the central lowlands exposed to cold winds from the Arctic regions, and frosts are known as far south as the latitude of Patna. Further, a cold ocean current from Baffin Bay flows down the coast of Labrador, and reduces the temperature of most of the eastern seaboard. Hence places on the east coast and in the central lowlands have a severer climate than places in the same latitude in western Europe.

The Gulf of St. Lawrence, in the same latitude as the English Channel, is closed to navigation during the winter months, and Halifax is the only Canadian port open all the year round.

Still the climate of the east coast of North America is less extreme than that of the east coast of Asia.

Warm ocean currents and moist winds from the Pacific make the climate of the western seaboard much more temperate; but even there the temperatures range lower than in corresponding latitudes in western Europe.

- The climate of the West Indies, Central America, and the lowlands of Mexico is tropical, with a regular rainy season.
- In the middle section of the continent the climate is that of the temperate zone, but varies greatly with the locality. It is warm in the south, cold in the north, and very dry in the Western Highlands and the plains lying east of them.
- The northern part of the continent has a very cold climate, mildest on the west coast, and arctic in the extreme north
- The following table gives particulars of the climate at places on both coasts and in the interior For the sake of comparison the same particulars for London and Lisbon are given.

| PLACE | Lat N | Long W | Mean Annual Temperature | Mean Temperature, Hottest Month | Mean Temperature, Coldest Month | Range of Temperature | Annual Rainfall. |
|---|---|---|---|---|---|---|---|
| Halifax, | 45° | 64° | 43° | 64° | 22° | 42° | 47″ |
| Winnipeg, | 50° | 97° | 33° | 66° | - 5° | 71° | 15″ |
| Victoria, | 48 | 123° | 48° | 58° | 36° | 22° | 40″ |
| **London,** | **51°** | **0** | **50°** | **63°** | **39°** | **24°** | **25″** |
| Washington, | 39° | 77° | 55° | 79° | 34° | 45° | 38″ |
| Salt Lake City, | 40° | 112° | 51° | 76° | 28° | 48° | 17″ |
| San Francisco, | 38° | 122 | 56° | 58° | 50° | 8° | 24″ |
| **Lisbon,** | **39°** | **10°** | **60°** | **71°** | **50°** | **21°** | **30″** |

## VIII. Plants and Animals.

A tundra region like that of Eurasia borders the Arctic Ocean, and extends partly round Hudson Bay, and along the north of Labrador.

Below this, running from north-west to south-east, is the forest region, with trees similar to those of Eurasia but of different species.

Large areas in the western highlands and east of the Rocky Mountains, which are cut off from the moist winds from the Pacific, are treeless, and resemble the steppes of Central Eurasia.

In the most arid parts, which are, however, usually less bare than the deserts of the Old World, the **sage brush**, the **cactus**, and the **yucca** are characteristic plants.

The mountains of the Pacific seaboard are forested, and the **Douglas fir, sequoia**, and other pines grow to gigantic size.

ANIMALS—

The **polar bear, reindeer, moose, musk-ox, walrus, grizzly bear,** the **seal** and many other fur-bearing animals are found in the north. Other characteristic animals are the **opossum, coyote, prairie-dog, puma, beaver, alligator**, and **rattlesnake.**

The **buffalo** or **bison**, which used to roam in great herds over the western plains, is now almost extinct.

## IX. People.

POPULATION—

The population of North America is now about 100 millions, or 12 persons to the square mile.

At the time of its discovery the population of the continent was small, and even after colonisation began it increased slowly until the beginning of the nineteenth century. During the last hundred years it has increased with great rapidity.

RACES AND LANGUAGES—

The majority of the inhabitants are now of European extraction. In the United States and Canada they are mostly of British and German descent; in Mexico and Central America of Spanish descent.

Negroes, descended from the slaves brought from Africa to work in the cotton and sugar plantations, are numerous in the south-east. On the Pacific side there are many Chinese.

The aboriginal inhabitants—the Red Indians—survive in diminishing numbers in the west The Eskimo inhabit the coasts and islands of the north.

English is the language everywhere except in Mexico and Central America, where Spanish is spoken, and in part of Canada, where the language is French.

RELIGIONS—

The majority of the people in Mexico and Central America are Roman Catholics. In the United States and Canada the majority are Protestants

The Eskimo and most of the Indians are still heathens.

## X. Products and Industries.

MINERALS—

North America is rich in minerals. **Gold, silver,** and **lead** are found in the western highlands; **coal, iron,** and **petroleum** mainly in the eastern highlands. **Copper** abounds near Lake Superior.

VEGETABLE PRODUCTS—

**Maize** is the only food-grain native to the continent, and is still more largely grown there than in any other part of the world.

> **Wheat, oats,** and other cereals originally introduced from Europe are now grown in enormous quantities, especially in the east of the central lowlands and on the Pacific seaboard.
>
> **Timber, tobacco, cotton, sugar,** and **potatoes** are other leading vegetable products.

ANIMAL PRODUCTS—

**Meat**—beef, mutton, and pork—is one of the most valuable products of the continent.

> The domestic animals of Europe were introduced into America by the early colonists and have multiplied exceedingly. **Horses** and **cattle** have taken the place of the buffalo on the grassy western plains, and are largely bred everywhere where grass will grow. **Sheep, swine,** and **mules** are also numerous.
>
> Other animal products are **furs** from the fur-bearing animals of the northern forests, **herring, cod,** and **salmon** from the sea and river fisheries.

INDUSTRIES—

> Most of the people are engaged in pastoral and agricultural pursuits, but of late years manufacturing industries of all kinds have developed very rapidly, especially in the United States.

## XI. Communications.

Except on the Atlantic seaboard the country has been settled too recently to allow of the development of any great system of trunk roads. The principal agencies in opening up new country have been the waterways and railways.

> The magnificent waterways of the continent give easy access to the far interior. The Mississippi and its branches connect the central lowlands with the Gulf of Mexico. The Great Lakes and the River St. Lawrence provide a route half-way across the Continent from the Atlantic.

This last route is connected by canals with the River Hudson, and so with New York, the greatest port of the New World.

Six trunk railways connect the Atlantic with the Pacific, and numerous branches connect the outlying trade centres with the main lines. The telegraph and telephone are in common use, and several cables connect the continent with Europe. Fast steamers cross the Atlantic in six days.

## XII. Trade and Commerce.

The principal trade of North America still consists in the export to Europe, and the United Kingdom in particular, of **food stuffs, forest produce,** and the **raw material** of manufactures, but there is a large and increasing export of manufactured products.

The commodities imported are such as are not produced in the country, or are not at present produced in sufficient quantity, *e.g.*, certain kinds of **manufactured goods, tea, sugar, coffee, tin** and some other metals.

Most of the trade is carried on in British ships.

## XIII. Political Distribution.

The greater part of North America belongs to two powers: the United Kingdom and the United States Mexico and the republics of Central America are independent powers.

France, Denmark, and the Netherlands have small possessions in the West Indies. The Danes have a few settlements on the coast of Greenland, and France owns two small islands —St. Pierre and Miquelon—to the south of Newfoundland.

| | Square Miles | Population. |
|---|---|---|
| Greenland, | 700,000 | 11,000 |
| Canada, | 3,654,000 | 5 millions. |
| Newfoundland and Labrador, | 161,200 | 210,000 |
| The United States, | 3,500,000 | 76¼ millions. |
| Mexico, | 767,000 | 12½ millions. |
| Central America, | 181,000 | 3½ millions. |
| The West Indies, | 95,000 | 4¼ millions. |

### QUESTIONS.

1. What striking differences between the Old World and the New can be seen on looking at a map?

2. Mention some resemblances and some differences between North and South America.

3. Compare as regards latitude the Baltic Sea and Hudson Bay, the Gulf of St. Lawrence and the Bay of Biscay.

4. Compare the extent in latitude of North America with that of other continents.

5. What is the North-west Passage? At what parts of the coast of North America are islands most numerous? Describe the chief openings on the east coast.

6. Describe the main natural divisions of the continent, and name and locate the principal mountain ranges.

7. What river basins occupy the central lowlands? Draw sketch-maps of the basins of the Mississippi, St. Lawrence, and Mackenzie.

8. Why is the climate on the plateaux of the western highlands so dry? Where is the climate most like that of England? What differences of climate would be observed in crossing from the Gulf of Mexico to Vancouver?

9. Describe the vegetation of the different natural divisions of America. Mention some characteristic animals.

10. What different races of mankind are found, and where?

11. Give some account of the products and trade of the continent.

## GREENLAND.

Greenland, the largest island in the world, extends from lat. 60° N.—the latitude of St Petersburg—to within a few degrees of the North Pole. The whole of the interior is a vast ice-sheet, through which emerges Petermann's Peak, 11,000 feet, leaving only a narrow strip of mountainous land along the deeply indented coast. The hardy and intelligent Eskimo and the few Danes who administer the settlements on the west coast, where the habitable land is widest, are the only inhabitants.

The **Eskimo** live entirely by hunting and fishing, using their small seal-skin covered boats in summer and sledges drawn by dogs over the frozen sea in winter.

## CANADA.

### I. Situation and Size.

The Dominion of Canada comprises all the northern half of North America, except Alaska, which belongs to the United States, the Atlantic coast of Labrador, and the islands of Newfoundland and Greenland.

Its area (3,600,000 square miles) is somewhat greater than that of the United States, and a little less than that of Europe.

Its length along the United States boundary is over 3000 miles, and its breadth averages about 2000 miles.

Hudson Bay, whose southern end comes within 300 miles of the Great Lakes, divides the country into two parts, of which the eastern is the smaller.

## II. Boundaries.

On the North: those of the continent.

On the West: Alaska and the Pacific Ocean.

On the East: the Atlantic

On the South: lat. 49° N from the Pacific to the Lake of the Woods; afterwards a line passing through the Great Lakes and south of the St. Lawrence to the Bay of Fundy.

## III. Relief and Rivers.

The northern portion of the western highlands of the continent runs through Canada. The Rocky Mountains, which bound the highlands on the east, increase in height from north to south, and near the United States frontier have many peaks 10,000 feet and upwards in height.

The best known are **Mounts Murchison**, **Hooker**, and **Forbes**.

The **Coast** or **Cascade Range** bounds this highland region on the west, rising to 7000 feet and upwards, and forming deep fiords along the coast.

In the far north-west **Mount St. Elias** (18,000 feet) is on the Alaskan boundary, and **Mount Logan** (19,500 feet), a little farther north.

Most of the rivers of the western highlands flow to the Pacific. The largest is the **Fraser River** (800 miles), which enters the sea behind Vancouver Island.

The other great rivers of Canada have been described under North America. The great plains to the east of the Rockies belong chiefly to the basins of the **Mackenzie**, **Saskatchewan**, and **Nelson**. Further east are the fertile lowlands of the **St. Lawrence** basin, while between Hudson Bay and both lowland regions is the **Laurentian Plateau**, averaging 1500 feet in height.

## IV. Climate, Plants, and Animals.

The climate is extreme, except on the Pacific coast. The summers are hot, and in the south the cereals and fruits of the temperate zone come to great perfection. **Maize, melons, tomatoes, tobacco**, and **grapes**, which cannot be grown as crops in England, flourish in the open air.

The whole of Canada, except the frozen north and the dry western plains, belongs to the forest region. Vast forests of **pine** and **larch**, and of deciduous trees in the south-east, extend from the Atlantic to the Pacific. All the cultivated land east of Lake Winnipeg has been obtained by clearing away forest

The **musk-ox** and the **caribou** (the American reindeer) roam the Arctic plains, and the northern forests are the home of the fur-bearing animals—**beaver, bear, martin, otter, fox, lynx,** and **wolverine**—hunted by Indian trappers. **Moose, elk,** and other **deer** inhabit the southern forests, and the prong-horned **antelope** is still found on the great plains.

## V. Population.

The population is about five millions, or less than two persons to the square mile.

Canada is capable of supporting a much larger population: but there are large areas that can never be thickly inhabited. Population is densest in the older settlements on the coast and in the valley of the St. Lawrence.

The Canadians are mostly Protestants and of British descent, except in the province of Quebec, where the people are descended from French settlers, speak French, and are Roman Catholics.

The Indians only number about 100,000, and are scattered over the north-west. As trappers—hunters of the fur-bearing animals—they travel in their birch-bark canoes along the streams and lakes of the northern forests.

The Eskimo of the northern coast hunt with spear and harpoon the various marine animals on which they live.

## VI Products and Industries.

Canada has few manufacturing industries The people are chiefly engaged in **agricultural** and **pastoral** pursuits, in **fishing** and in **lumbering,** *i.e.* felling and transporting trees.

**Coal** is found on both sides of Canada. **Gold, silver,** and **lead** are mined in the western highlands, and lately there have been large discoveries of **gold** in the Yukon region in the extreme north-west.

**Petroleum, iron, copper,** and **nickel** are also found.

## VII. Communications and Trade.

Ocean steamers can go up the St. Lawrence to Montreal, nearly a thousand miles from the Strait of Belle Isle, and canals and locks enable large inland steamers to ascend to the head of

Lake Superior. The Saskatchewan, Mackenzie, and Yukon are navigable for thousands of miles.

The railway system connects the principal towns of the older settled districts, and has termini at Quebec on the St. Lawrence, at St. John on the Bay of Fundy, and at Halifax on the Atlantic.

The **Canadian Pacific Railway** connects the eastern railways with the Pacific seaboard, crossing the Rocky Mountains by the Kicking Horse Pass (5300 feet), and descending from the western highlands to Vancouver on Georgia Strait.

Branches connect the Canadian system with the United States system at various points.

The Canadian Pacific Railway provides the shortest route from England to Japan and China.

The trade of Canada is chiefly with the United States and the United Kingdom, and is rapidly growing as the resources of the country are developed.

The principal exports are **timber, cheese, wheat, cattle, bacon, codfish, tinned lobster** and **salmon, coal, horses, hay, furs, silver** and **gold.**

Imports are **iron** and **steel, woollen** and **cotton goods, silk, tea, coffee, sugar, wines,** and **spirits.**

## VIII. Government.

The Dominion of Canada is a confederation of self-governing colonies or provinces under a Governor-General appointed by the British Government, a Senate, and a House of Commons elected by the people. Each of the provinces has a Lieutenant-Governor, appointed by the Governor-General, and a legislative assembly.

Local defence is provided for by militia and volunteers, and Canada has lately contributed a valuable contingent to the Imperial forces.

Education is partly compulsory, and there are universities in all the provinces.

## IX. Political Subdivisions and Towns.

The provinces are, commencing on the east,

(1) The maritime provinces of **Nova Scotia, New Brunswick,** and **Prince Edward Island.**

(2) **Quebec** and **Ontario,** sometimes called Old Canada.

(3) **Manitoba,** the central plains' province.

(4) **British Columbia,** the Pacific province.

The vast areas known as the North-West Territories are under a Lieutenant-Governor, but do not rank as a province. The remote districts of the north, inhabited by a few Indians and Eskimo, have no organized government.

**Nova Scotia,** the most south-easterly province, in the same latitude as the south of France, consists of a peninsula connected with New Brunswick by a narrow isthmus, and the large island of **Cape Breton.** It has many good harbours, and the **cod** and **lobster** fisheries are the chief industries. There are also important **coal mines.** Excellent **fruit,** especially apples, is grown.

**Halifax** (41,000), the capital and a coaling station for the British fleet, has a magnificent harbour, the nearest on the continent to Europe that is free from ice all the year round. It has direct railway communication with the Pacific.

**New Brunswick,** capital **Fredericton,** occupies the mainland opposite Nova Scotia, facing the Gulf of St. Lawrence and the Bay of Fundy. It has much forest, and the chief industries are **lumbering** and **fishing.**

**St. John** (41,000) is the largest town. The high tides of the Bay of Fundy keep its harbour clear of ice in winter

**Prince Edward Island,** the smallest province, is a fertile island in the Gulf of St. Lawrence. **Agriculture** and **lobster fishing** are the principal industries.

**Charlottetown** (11,000), on the south coast, is the capital.

**Quebec** occupies both sides of the lower St Lawrence and its estuary. It is the oldest province, and its inhabitants are largely of French descent. The climate is more severe than that of the maritime provinces. The chief industries are **agriculture** and **lumbering.**

**Montreal** (267,000) is the largest city in Canada, the principal seaport, and the main terminus of the Canadian Pacific Railway. It is a handsome city, and has important **manufactures.**

**Quebec** (69,000), the capital of the province, is an ancient and picturesque city partly situated on a rocky height north of the St. Lawrence.

**Ontario** lies north of the Great Lakes, on which it has a shoreline of nearly 2000 miles. In the north it touches the southern end of Hudson's Bay. **Wheat, lumber, petroleum,** and **salt** are the chief products.

**Toronto** (208,000), the capital, is situated on the north side of Lake Ontario. It is an important lake port, a manufacturing town, and a railway centre

**Hamilton** (53,000) is another busy lake port.

**Ottawa** (60,000), the capital of the Dominion, with magnificent Parliamentary buildings, is situated on the Ottawa River, which separates the province from Quebec. It is the chief centre of the lumber trade.

**Manitoba** is in the very centre of North America. Most of it is plain, and the southern part produces enormous crops of **wheat.**

**Winnipeg** (42,000), the capital, is situated on the Red River, which flows from the United States to Lake Winnipeg It is a great railway centre on the Canadian Pacific, which, by bringing the country within reach of markets, has caused the development of the wheat industry of the province, and made Winnipeg the chief trading centre of the whole north-west of Canada.

**British Columbia,** the largest province of the Dominion, occupies the western highlands from the Rockies to the Pacific. It is the most English in climate and character. The chief products are **lumber, coal, gold.** and **salmon** from the rivers.

**Victoria** (21,000), the capital, is situated on a fine harbour at the south end of Vancouver Island, and is the headquarters of the fur-sealing fleet. Near it is **Esquimault,** the naval station of the British fleet in the North Pacific.

**Vancouver** (26,000), the Pacific terminus of the Canadian Pacific Railway, has a fine harbour on the mainland opposite Vancouver Island. A regular service of steamers connects Vancouver with Japan, China, and New Zealand.

**New Westminster,** on the Fraser River, has great saw-mills and a salmon canning industry.

**The North-west Territories** lie west and north-west of Manitoba, and east of British Columbia. The inhabitants are widely scattered, and are mostly engaged in **agriculture** and in raising **live-stock.**

**Regina,** on the Canadian Pacific Railway, is the capital.

**Calgary,** also on the railway, is the centre of a cattle-rearing district.

The recent discovery of gold on the **Klondike,** a tributary of the Yukon, has caused a rush of miners to the extreme north west, and has led to the establishment of **Dawson City.**

## NEWFOUNDLAND.

Newfoundland, about one-third larger than Ireland, is a rocky island, indented by deep fiords, lying across the mouth of the Gulf of St. Lawrence. It is separated from **Labrador** by the strait of **Belle Isle,** and from Cape Breton by **Cabot Strait.** It is nearer Great Britain than any other part of America, **Cape Race** being 1600 miles from Cape Clear in Ireland as against 1000 miles from Montreal.

The climate, though cold, is less extreme than that of the mainland. Hardy vegetables grow well, but the inhabitants are almost entirely engaged in the great **fisheries**. **Seals** are hunted in spring, and for the rest of the year **cod fishing** goes on over the "Great Banks of Newfoundland" —a shallow stretch of sea to the south and east, notorious for its fogs, to which the cod-fishing fleets of various nationalities resort.

Besides codfish, some **minerals**—chiefly copper and iron ores—are exported.

Hitherto Newfoundland has not joined the Canadian confederation. Together with the coast of the desolate peninsula of **Labrador** that extends north-west from the opposite side of Belle Isle strait, it forms a self governing colony with a total area of 161,200 square miles

**St. John's** (31,000), the capital, stands at the head of a fine harbour near Cape Spear, on the east coast of the Avalon Peninsula A railway connects it with the coast opposite to Canada, and so, by fast steamers, with the Canadian railway system.

### QUESTIONS.

1. What part of Europe is in the same latitude as Canada, and what country of Europe most resembles it in climate and products?

2. Describe the natural divisions of Canada, and the courses of the principal rivers.

3. How is the nature of the vegetable products of Canada affected by the hot summers? Where is the great wheat-growing region?

4. What do you know of the occupations of the principal races inhabiting Canada?

5. Describe from the map the route of the Canadian Pacific Railway from Montreal to Vancouver. How has it brought Japan and China nearer England?

6 Which of the Great Lakes touch Canada? Where does Canada extend furthest south?

7. Where and what are the following · Halifax, Bay of Fundy, the Great Banks, St. John's, St John, Ottawa, Winnipeg, Vancouver. Cape Race, Labrador, Klondike, Toronto, Quebec, Montreal, Victoria, Regina?

# THE UNITED STATES.

## I. Situation and Size.

The great country called the United States occupies the middle portion of North America, lying chiefly between lats. 25° and

49° N. Alaska, the extreme north-west portion of the continent, is also United States territory.

The area of the United States proper is about 3 million square miles. Alaska contains about 500,000 square miles.

The average length from east to west is about 2500 square miles, and the average breadth from north to south about 1030 square miles.

## II. Boundaries and Coast.

The boundaries are those of the continent, except in the north, where the United States touches Canada, and in the south-west, where it touches Mexico.

The general character of the coast-line has been described under North America. The most marked projection is the Florida Peninsula, in the extreme south-east, which separates the Gulf of Mexico from the Atlantic.

The **east coast** is much indented: rocky, with many islands and excellent harbours, to the north of Cape Cod; further south, and round the Gulf of Mexico, low and sandy, with low islands cutting off shallow bays or swamps.

**Long Island**, which helps to form the splendid harbour of New York, is the largest island; **Chesapeake** and **Delaware** Bays are the largest indentations; **Cape Cod** and **Cape Hatteras** are the most prominent capes.

The **Pacific coast** rises abruptly from the shore to the summit of the coast ranges. **Puget Sound** in the north and **San Francisco Bay** in the middle section of the coast, are the only large openings.

## III. Relief, Rivers, and Lakes.

1. The **Atlantic Coastal Plain** is a long strip of lowland along the east coast, widest in the south.

It is crossed by numerous rivers rising in the Appalachian highlands, most of them larger than the Thames. The **Hudson** (325 miles), **Delaware**, **Susquehanna**, **Potomac**, and **James** are the most important.

2. The **Appalachian Highlands** form the water-parting between the rivers of the Atlantic plain and those of the Mississippi basin. They are a system of parallel ranges extending south-west from the St. Lawrence for over 1000 miles. The western ranges in the middle of the system are called the Alleghany Mountains.

The highest peaks (6700 feet) are in the **Black Mountains** in the south. **Mount Washington**, the highest peak in the northern part of the system, also exceeds 6000 feet.

3. The **Central Lowland** extends from the Great Lakes to the Gulf of Mexico, and comprises the Mississippi basin between the Appalachians and the arid region of the Great Plains.

Of the **Great Lakes** Lake Michigan is entirely within the United States, and the northern boundary line passes through all the others.

In the north, between the Ohio and the Missouri, are the **prairies**, a great region of fertile, grassy plain. In the south is the coastal plain extending inland from the Gulf of Mexico.

The **Mississippi** receives on its right bank the **Missouri**, **Arkansas**, and **Red River**, and on its left bank the **Ohio** and its tributary, the **Tennessee**. In the lower part of its course it is higher than the neighbouring plains, which are only protected from flood by embankments called **levees**. Its delta projects into the Gulf of Mexico, and the mouths of the distributaries into which the river breaks up are called **passes**.

4. The **Great Plains** are the dry and treeless region forming the western portion of the Mississippi basin. They rise in undulations till they reach a height of 5000 feet or more at the base of the Rocky Mountains.

They are drained by the **Yellowstone**, **Platte**, and **Kansas**, tributaries of the Missouri, and by the upper courses of the **Arkansas**, **Red River**, and **Rio Grande**. The last river is the boundary between the United States and Mexico.

5. The **Rocky Mountains** form the eastern border of the western highlands. **Blanca Peak** (14,390 feet), **Pike's Peak**, **Mount of the Holy Cross**, and others exceed 14,000 feet.

The **Yellowstone National Park**, a high mountain-basin in the Rockies, is famous for its geysers and hot springs.

6. The **Plateau Region** lies between the Rocky Mountains and the high ranges near the Pacific coast.

The **Columbia Plateau**, about 2000 feet above sea-level, is traversed by the **Columbia River** and its tributary, the **Snake River**. The **Great Basin**, without outlet to the ocean, lies south of the Columbia Plateau. Numerous brackish or salt-water lakes receive the drainage, the largest of them being the **Great Salt Lake** in the east. Most of the Great Basin is from 3000 to 4000 feet above the sea, but in the south-west is **Death Valley**, a desert below sea-level.

The **Colorado Plateau**, 6000 to 7000 feet in elevation, occupies the south-east of the plateau region It is separated from the Great Basin by the **Wahsatch Mountains**, which rise to 11,000 feet, and is intersected by the deep rock-gorges (cañons), at the bottom of which the rivers flow. The Grand Cañon of the **Colorado River** is more than 200 miles long, and from 5000 to 6000 feet deep.

7. The **Cascade Mountains**, in which is **Mount Rainier**, 14,500 feet, enter the United States from Canada, and run south to **Mount Shasta**, 14,400 feet. They are continued by the **Sierra Nevada**, in which **Mount Whitney** rises to 14,900 feet, the highest point in the United States. These ranges form the western border of the plateau region.

The **Yosemite Valley**, famous for its wonderful scenery, is a very deep valley with perpendicular walls in the heart of the Sierra Nevada.

8. Between these ranges and the low ranges bordering the ocean are the fertile basins of the Pacific seaboard, the largest of which is the **basin of California**.

## IV. Climate, Plants, and Animals.

The eastern half of the United States has hot summers everywhere. The winters are long and cold in the north, but mild in Florida and in the southern coastal plain.

Rainfall increases towards the south, but is everywhere sufficient for agricultural purposes.

The Mississippi basin is liable to sudden and destructive **tornadoes**, and violent cold winds, called **blizzards**, are common in winter.

The Western half of the country has a dry and extreme climate, but the winters on the Great Plains are much milder than they are further east, and cattle can lie out all the year round. Except in specially favoured situations, agriculture is dependent on irrigation. Much of the plateau region is practically desert.

On the Pacific coast the climate is mild and equable, and the rainfall increases towards the north.

The eastern half of the country, with the exception of the prairies, belongs to the forest region. In the western half forest is only found on the high mountains, and in the moister parts of the Pacific seaboard.

In their natural state the prairies are richly grassed, but trees grow when planted. The Great Plains are treeless, and covered with scanty grass. The plateau regions are bare, except in the high mountain basins called **parks**.

**Wild animals** have retreated before cultivation, but **wolves, wild cats, panthers, bears**, and **deer** are still found.

## V. People.

POPULATION—

The population is about 76¼ millions, or 21.7 inhabitants to the square mile.

Population is densest in the older states of the northern Atlantic seaboard. In the western states it falls below three to the square mile.

RACES—

People of white race number about 60 millions, chiefly descended from emigrants from England, Ireland, and Germany.

Negroes and those of negro descent number about 7½ millions. There are now about 250,000 Indians, and 100,000 Chinese

The inhabitants of the United States stand out among the peoples of the world for energy and enterprise, their ingenuity in mechanical invention, and for business aptitude generally.

## VI. Products and Industries.

MINERALS—

Few countries are so rich in valuable minerals

**Coal** is widely distributed. The richest coalfield is west of the Appalachians. **Iron** is almost as widely distributed, and the United States produces more iron and steel than any other country in the world. The production of **gold** and **silver**, chiefly in the western highlands, is also the largest in the world.

**Petroleum** is obtained in enormous quantities in the Appalachian coal and iron district, and in its refined form as **kerosene** it is known everywhere.

**Copper, lead, zinc,** and **quicksilver** are also produced in important quantities.

VEGETABLE PRODUCTS—

**Maize** or **Indian corn** is by far the largest crop. Next come **wheat** and **oats**. The chief grain producing region is the central lowland. **Cotton** is the great crop of the warm coastal plain to the north of the Gulf of Mexico, while **tobacco** is grown a little further north. **Sugar cane** is grown in and near the Mississippi delta. **Lumber** comes in greatest quantity from the borders of the Great Lakes and from the forests of the Pacific coast.

**Apples**, **grapes**, and **peaches** grow well in many of the north-eastern states, **oranges** and **lemons** in Florida and California. California is noted for its **fruit**, and produces excellent **raisins** and **wines**.

ANIMAL PRODUCTS—

Great numbers of **cattle** are raised on the ranches or cattle runs of the Great Plains, **swine** in the maize-growing districts, and **sheep** in most of the grass-producing areas.

**Butter** and **cheese** are chiefly made in the north-central and north-eastern states.

The fisheries produce **oysters**, **cod**, and **haddock**, and on the Pacific side **salmon**.

MANUFACTURES—

The manufactures of the United States now exceed in value those of the United Kingdom, although the country as a whole is still agricultural or pastoral.

The raw materials so abundantly produced in the country determine the nature and importance of the leading manufactures, which are those connected with **lumber**, **meat**, and **grain**.

The manufactures of **iron** and **steel**, **machinery**, **cotton goods**, and **tobacco** are also of great importance and value.

The United States excels in the production of all kinds of ingenious labour-saving machinery.

## VII. Communications.

The railway system of the United States is the largest in the world, being larger than that of all Europe.

A network of lines connects New York and the other Atlantic ports with the great trading and industrial centres of the central lowland. The principal trunk lines are continued across the Great Plains, and after climbing the Rocky Mountains and crossing the plateaux, they descend to the Pacific at San Francisco or Portland. The rivers of the Atlantic coast, the Great Lakes, the Mississippi and its great tributaries are navigated by numerous steamers engaged in the inland trade.

## VIII. Trade and Commerce.

The merchant fleet of the United States is very large, but it is principally engaged in the enormous internal trade of the country. Most of the foreign trade, which is also very great, is carried on by foreign ships, chiefly British.

The chief **exports**, which largely exceed the imports in value, are **wheat, flour**, and other **food stuffs, cotton, meat**, and **dairy produce, iron** and **steel goods, petroleum, animals, timber** and **timber goods, tobacco.**

The **imports** are **silk, cotton**, and **woollen goods, coffee**, and **sugar.** New York is by far the greatest port, and has about half the total foreign trade.

## IX. Government.

The United States is a federal republic, with a President, elected for four years by the people, who is the chief executive officer, and a Congress of two Houses—the Senate and the House of Representatives.

Each of the forty-four states of the Union enjoys "Home Rule," having its own Governor, Senate, and House of Representatives.

The **Army** is small compared with those of European powers. The **Navy** is powerful and highly efficient.

**Education** is general in the north-eastern states, but it is nowhere compulsory, and about one-tenth of the population are illiterate. Higher education is well provided for, and is excellent of its kind, and there are numerous and well-equipped universities.

About 500,000 **emigrants** from European countries enter the country annually. Of late years they have come in increasing numbers from Austria-Hungary and Italy. The immigration of Chinese into California has been checked by a poll-tax.

FOREIGN POSSESSIONS—

Since 1898 the United States has held **Cuba** and **Porto Rico** in the West Indies, the **Philippines** in Malaysia, **Guam** in the Ladrones, and, since 1900, the smaller Samoan Islands.

**Hawaii** (the Sandwich islands) was also annexed in 1898.

## X. Towns.

### I. Towns of the Atlantic Plain.

**New York**, on the left bank of the River Hudson, **Brooklyn** on Long Island, connected with New York by the largest suspension bridge in existence, and **Jersey City** on the right bank of the Hudson, form practically one huge city with 3½ million inhabitants, the largest in the United States, and one of the largest in the world. It is the first port and commercial city of the country, and also the greatest manufacturing town.

**Philadelphia**, the capital of the state of Pennsylvania, on the Delaware River, has over 1¼ million inhabitants, and is the second manufacturing town. It exports coal, and manufactures iron and steel goods. It was here that the Declaration of Independence was made in 1776.

**Boston** (560,000), the capital of Massachusetts, and the chief town of the New England or North Atlantic States, is the second port of the country, and a manufacturing town. Near it, at Cambridge, is **Harvard University**, the oldest in America.

**Baltimore** (509,000), on Chesapeake Bay, is the capital of Maryland, noted for tobacco, canned fruit, and oysters.

**Washington** (278,000), on the Potomac, the capital of the United States, is a city of magnificent avenues and public buildings.

**Newark** (246,000), in New Jersey, has great tanneries.

**Providence** (175,000), in the south of New England, makes jewelry. Other important cities of the Atlantic Plain, with less than 100,000 inhabitants, are **Albany**, the capital of New York State, **Richmond**, the capital of Virginia and a tobacco centre, **Wilmington**, **Charleston**, and **Savannah**, cotton and tobacco ports.

## II. Towns of the Central Lowlands.

**Chicago**, at the southern end of Lake Michigan, was not in existence in 1830 It has now over 1½ million inhabitants, and is the greatest lake port and railway centre in the world. It is also the centre of the meat, grain, and lumber trade, and manufactures iron and machinery.

**St Louis** (575,000), a little below the junction of the Mississippi and Missouri, is the largest city of the Mississippi valley, and a centre for agricultural and grazing produce.

**Cincinnati** (325,000), on the Ohio, is another agricultural centre.

**Cleveland** (381,000) and **Buffalo** (352,000), on Lake Erie, are important lake ports The former has iron and steel manufactures, and petroleum refineries; the latter collects lumber and grain.

**New Orleans** (287,000), in the Mississippi delta, is the chief cotton port.

**Pittsburg** (321,000), on the upper Ohio, is the largest town on the great coalfield, and the centre of the iron and glass industries. On the opposite side of the river is **Allegheny** (129,000).

**Detroit** (285,000) is a manufacturing town on the Detroit River, which connects Lake Erie with the St. Clair Lake and River, and so with Lake Huron.

**Milwaukee** (285,000) is, after Chicago, the largest port and town on Lake Michigan.

**Minneapolis** (202,000), at the falls of the upper Mississippi, has great water-power flour mills, and **St Paul** (163,000), a little lower down, at the head of steamer navigation, is a great railway centre

**Louisville** (204,000), on the Ohio below Cincinnati, is a tobacco centre.

**Omaha** (102,000), on the Missouri, is the starting-point of one of the trunk lines across the Great Plains. It is an important cattle and grain market.

**Rochester** (162,000), south of Lake Ontario has flour mills.

**Kansas City** (163,000) is a railway centre on the Missouri.

**Indianapolis** (169,000) is the centre of a farming and grazing district in the prairie region.

**Mobile** in Alabama and **Galveston** in Texas are important cotton ports on the Gulf of Mexico.

III. **Towns of the West**

**San Francisco** (342,000), the largest town and port on the Pacific coast, is situated on San Francisco Bay, which is connected with the Pacific by the "Golden Gate." It exports gold and wheat, and collects the wines and fruits of the rich basin of California

**Denver** (138,000) is situated on the Great Plains, near the base of the Rocky Mountains. It is a great railway and mining centre, collecting produce from the ranches and farms, and supplying the mining districts of the plateau above with food and machinery

Other noteworthy towns are **Salt Lake City**, the headquarters of Mormonism, **Portland**, a port on the Columbia River, **Santa Fe** in New Mexico, the oldest town in the United States, and **Los Angelos**, beautifully situated in the south of California.

## QUESTIONS.

1. What parts of the United States are in the same latitude as southern Europe? What European capitals are further south than New York?

2. Describe the Atlantic coast on both sides of Cape Cod. What is the general character of the Pacific coast?

3. Give a list, in order from north to south, of the principal rivers of the Atlantic plain, and say what towns are situated on them.

4 Make a sketch-map of the Mississippi basin, showing the natural divisions, the principal rivers, and the towns situated on them.

5. Describe the climate and products of the Great Plains.

6. Describe the plateau region and the mountain ranges bounding it. What rivers flow to the Pacific, and where do they rise? What is the California basin?

7. Of what race are the majority of the people of the United States? Where is the population densest, and why?

8. Name the most valuable natural products of the United States. What products are specially associated with Chicago, Pittsburg, New Orleans, and San Francisco?

9. Mention some ports on the Great Lakes, and say where they are, and which of them is nearest to New York. What products are collected by these lake ports?

10. Make a list of the principal ports engaged in the foreign trade, and say in what their trade chiefly consists. What commodities have to be imported into the United States?

11. How is the United States governed? What and where are its foreign possessions?

12. What and where are Philadelphia, the Yosemite Valley, Boston, Brooklyn, Richmond, St. Louis, Florida, Denver, Cincinnati, Long Island, Omaha, Mount Shasta, Santa Fe, Blanca Peak, Salt Lake City, Mount Whitney, Galveston?

## MEXICO.

### I Situation and Size.

Mexico occupies the south-western portion of North America from lat. 15° N. to 33° N

> Its area is 767,000 square miles, or one-quarter that of the United States.
>
> It lies between the Gulf of Mexico and the Pacific Ocean and extends from the United States' boundary to the south of the Gulf of Tehuantepec and the Yucatan Peninsula.

### II Relief

The greater part of the country belongs to the western highlands of North America, and is a plateau from 6000 to 8000 feet high, with bordering ranges known as the **Sierra Madre**.

> The southern part of the plateau is crossed by a line of volcanoes, three of which, **Popocatepetl**[1] (17,860 feet), **Orizaba**[2] (17,780 feet), and **Ixtaccihuatl**[3] (17,000 feet), rise above the snow line. **Colima** and **Jorullo**, both off the plateau, are the most active volcanoes.
>
> There are no large rivers. The most considerable river is the **Rio Grande**, which forms the boundary between Mexico and the United States in the north-east.

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[1] "Smoking Mountain."

[2] Or Citlaltepetl, "Star Mountain."

[3] "White Woman."

## III. Climate and Products.

Owing to the great differences of elevation Mexico has many climates In the coastal lowlands the climate is moist and tropical, it is dry and temperate on the plateau up to 7000 feet, and cold at higher elevations.

The vegetation is equally varied. **Palms, rubber trees, mahogany** and **rosewood** trees, and all kinds of tropical **fruits** flourish in the lowlands; sub-tropical fruits and the products of the temperate zone in the highlands. The **cactus** in many varieties is characteristic of the dry plateau, where there is also much good grazing land, and many cattle ranches.

**Coffee, cotton, sugar cane,** and **tobacco** are the principal agricultural products **Sisal hemp** or **henequen,** prepared from the **agave** or American aloe, is an important product; also **cacao** and **vanilla.** From one kind of agave the national intoxicating beverage, **pulque,** is made

No country in the world is richer in minerals. **Silver** and **gold** are very abundant.

Manufactures are few. Some **cotton, woollen,** and **leather goods** are made; also **hats** of straw and felt.

## IV. Communications and Trade.

Mexico has about 9600 miles of railway, which, like those of Spain, and for similar reasons, have been very difficult of construction. The capital is connected with the railway system of the United States by several trunk lines, and also with Vera Cruz and Tampico on the Gulf of Mexico.

About half the trade of the country is with the United States; the rest chiefly with the United Kingdom and France.

**Exports: silver, henequen, coffee, gold, cattle, tobacco, hides,** and **skins.**

**Imports: cotton goods, iron,** and **machinery.**

## V. People and Government.

The population is nearly 13 millions, or 16 to the square mile. Nearly one-fifth are Creoles or whites of Spanish descent; about two-fifths are Indians, and the rest are of mixed race (Mestizos).

Only a small proportion of the Indians and Mestizos can be considered really civilised.

The government is a federal republic, like that of the United States.

### VI Towns.

**Mexico** (330,000), the capital, is beautifully situated in the middle of the southern part of the plateau, more than 7000 feet above the sea The streets are regular, the houses low and built in the Spanish style. There is a magnificent cathedral, and other public buildings.

**Puebla, Leon, Guadalajara, San Luis Potosi,** and **Queretaro** are other cities on the plateau with more than 50,000 inhabitants.

**Merida,** the capital of Yucatan, is connected by rail with **Campeachy,** on the bay of that name

**Vera Cruz** (24,000) and **Tampico** are the chief ports on the Gulf, and **Acapulco,** on the Pacific, has one of the best harbours in the world.

## CENTRAL AMERICA.

### I. Situation and Size

As a natural division Central America is the long isthmus of varying width which extends from the Isthmus of Tehuantepec to the Isthmus of Panama.

The northern part of this natural division is included in Mexico, and Panama is politically in South America

Central America, therefore, as a political division, consists of the five Spanish-speaking republics of **Guatemala, Honduras, Salvador, Nicaragua,** and **Costa Rica,** together with the Colony of **British Honduras** in the extreme north-east.

The area is about 173,000 square miles, nearly the same as that of Burma without the Shan States

Central America lies between the **Caribbean Sea** on the east and the Pacific Ocean on the west Both coasts are fairly regular, the deepest indentation being the **Gulf of Honduras,** between Honduras and the Yucatan Peninsula

### II. Relief, Rivers, and Lakes.

Most of the surface is mountainous, with numerous volcanoes near the Pacific coast. The highest peaks, which occur in Guatemala and Costa Rica, rise to between 11,000 and 14,000 feet.

The waterparting is nearest the Pacific; and the longest rivers accordingly flow to the Atlantic.

Lakes, some without outlet, are numerous ; **Lake Nicaragua,** 3000 square miles, and its feeder, **Lake Managua**, are connected by the **River San Juan** with the Caribbean Sea.

A great ship canal to join the two oceans by this route has been projected.

### III. Climate and Products.

Central America lies entirely within the tropics The moist, hot lowlands are covered with dense jungle, and are very sparsely inhabited.

The mountains and inner highlands, where the population is greatest, have a cooler and, except on the outer slopes, a drier climate

The vegetable products are similar to those of Mexico, and vary with elevation. The great forests, especially those of the Atlantic coastal plain in Nicaragua, called the **Mosquito Coast**, are rich in **mahogany** and **logwood**

The warm temperate uplands produce excellent **coffee**, and the warm dry uplands **indigo**. **Cattle** are reared on the dry grassy highlands **Gold** and **silver** mines are worked in some parts.

### IV. Communications and Trade.

Roads are few and bad, and in the interior are only mule-tracks

A few lines of railway exist, connecting ports with towns in the interior

Steamers ply along the coasts and on some of the lakes.

The principal **exports** are **coffee**, **gold** and **silver**, **indigo**, **mahogany**, **logwood**, **rubber**, and other forest products, **bananas** and **hides**. **Cotton goods** are the chief **import**.

### V. People and Government.

The population, about 3½ millions, is chiefly composed of **Mestizos**, a mixed race of Spanish and Indian extraction.

There are also **Negroes**. **Mulattoes**, **Zambos** (mixture of Negro and Indian), and a few **Creoles**.

Each of the five republics, under its own president, is independent of the others None of them can be considered highly civilised.

TOWNS—

**New Guatemala** (72,000), the capital of Guatemala, is the largest town in Central America. It is situated inland at a height of about 5000 feet in a region subject to disastrous earthquakes. A railway connects it with **San Jose** on the Pacific.

The other capitals, **San Jose** (Costa Rica), connected by railway with its ports, **Limon**, on the Atlantic, and **Punta Arenas**, on the Pacific; **Tegucigalpa** (Honduras), connected by railway with **La Brea**, on Fonseca Bay; **San Salvador** (Salvador); **Managua** (Nicaragua), on Lake Managua, have each 25,000 inhabitants or less. **Leon** (34,000) is the largest town in Nicaragua, and is connected by rail with **Corinto**, on the Pacific. **Greytown**, at the mouth of the San Juan, is a rising port.

**British Honduras** (area, 7560 square miles; population, 34,000) is a Crown Colony on the Caribbean Sea, south of Yucatan. It is nearly all forest, and is noted for its production of **mahogany** and **logwood**.

**Belize** (7000) is the capital and only town.

## THE WEST INDIES.

### I. Situation and Size.

The West Indian Archipelago extends from the peninsulas of Yucatan and Florida to South America, enclosing the Caribbean Sea between itself and Central America.

Those islands may be considered as the summits of a continuation of the great mountain ranges of the mainland.

The **Greater Antilles** are the larger western islands comprising **Cuba, Haiti, Porto Rico**, and **Jamaica**.

The **Lesser Antilles**, or the **Caribbees**, comprise all the islands east and south of Porto Rico, including the groups officially known as the **Windward** and **Leeward Islands**.

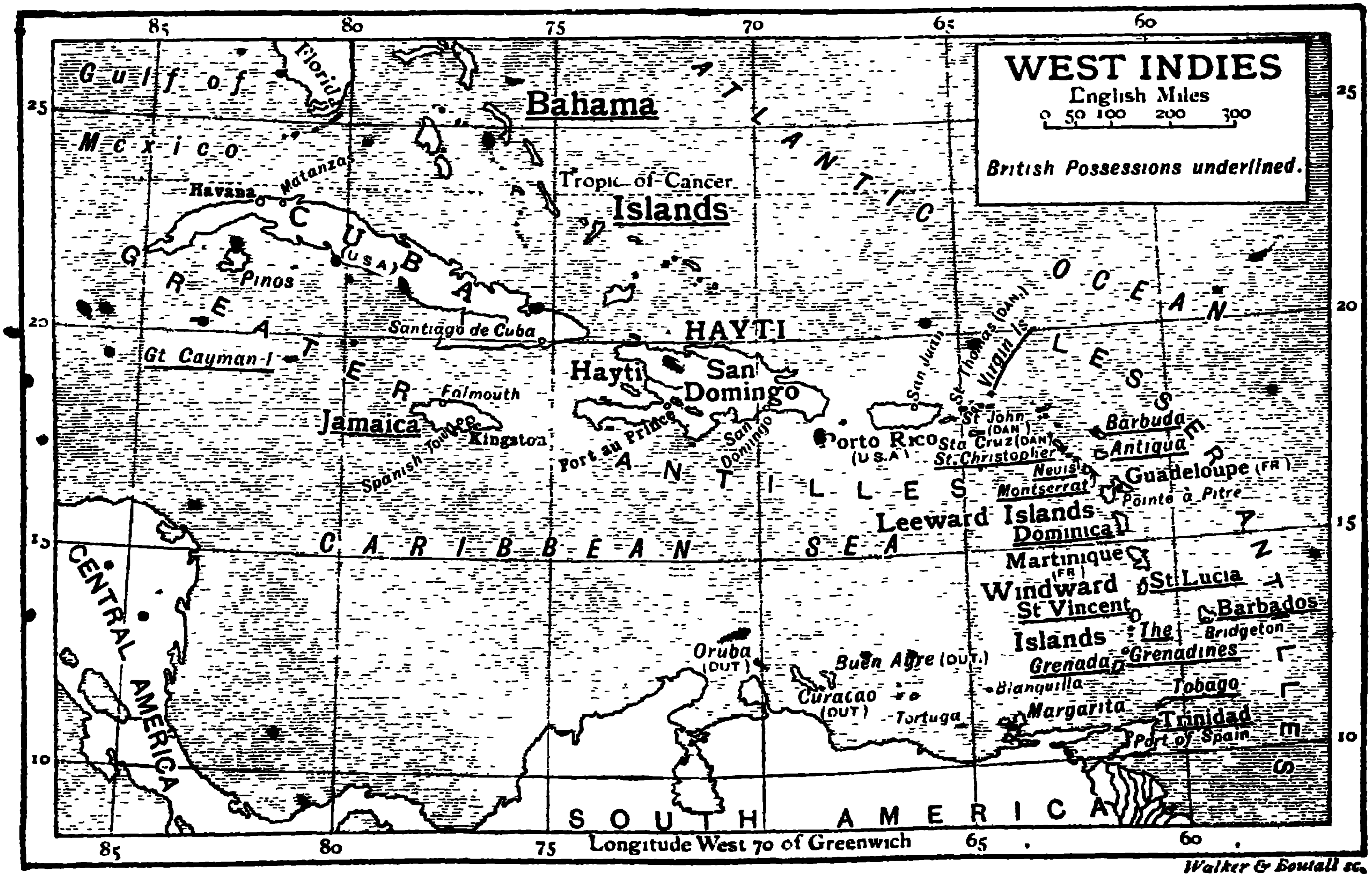
The name **Windward Islands** is more correctly applied to all the islands of the lesser Antilles facing the Atlantic, and exposed to the easterly trade winds. The true **Leeward Islands** are the sheltered islands along the South American coast.

The **Bahamas** are a group of coral islands lying north of the Greater Antilles.

The numerous islets of the Bahamas and other West Indian groups are commonly called **Keys**.

The total area of the West Indies is about 95,000 square miles, of which about 13,000 square miles are British.

The largest islands are **Cuba** (about one-third larger than Ireland), **Haiti, Jamaica**, and **Porto Rico** in the Greater Antilles, and **Trinidad** in the Lesser Antilles.



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## II. Relief.

The Antilles are mountainous, many of the islands being volcanic.

**Loma Tina**, in Haiti, 10,300 feet, is the highest summit in the West Indies.

The Bahamas are low coral islands, rising little above the sea.

## III. Climate and Products.

The climate is tropical. The prevalent winds are the easterly trade winds, and the east coasts of the Lesser Antilles facing the Atlantic are surf-beaten all the year round. Hence most of the towns and harbours are on the calm western or leeward coasts.

Disastrous hurricanes occur between August and October

The coastal lowlands are often unhealthy, yellow fever being common, but at a sufficient elevation in the mountains a delightful climate is obtained

Except in the Bahamas the soil is fertile, and the Antilles are clothed with luxuriant forest. All tropical fruits and vegetables can be grown, but the characteristic product of the islands is **sugar cane. Tobacco, coffee, cacao,** and **cotton** are also cultivated.

Owing to the competition of the cheap beet-sugar made on the continent of Europe, the sugar industry has much declined. In many of the islands the industry has been almost ruined.

## IV. People.

The population is about four millions, mostly negroes. There are also mulattoes and others of mixed race. Creoles are most numerous in Cuba.

Many coolies emigrate from India to Jamaica, St. Lucia, and Trinidad

## V. Political Distribution and Towns.

1. **Cuba**[1] and **Porto Rico** now belong to the United States Cuba takes the first place in the world in the production of sugar. Its tobacco is also famous.

**Havana** (235,000), the capital of Cuba, is situated on a beautiful harbour on the north coast, and is connected by rail with the south coast, and with the sugar and tobacco-growing districts. It is famous for its cigars.

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[1] Cuba was granted independence in 1902.

**Santiago** (43,000) is the chief town and port on the south coast.

**San Juan** (32,000) is the capital of Porto Rico

2. **Haiti** is divided between the French-speaking negro republic of Haiti in the west, and the Spanish-speaking negro republic of San Domingo in the east Sugar and coffee are the staple products.

**Port-au-Prince** is the capital of Haiti, and **San Domingo,** on the south coast, the capital of San Domingo.

3. **Jamaica,** most of the **Lesser Antilles,** and the **Bahamas** belong to the United Kingdom.

**Jamaica,** the largest of the British West Indies, is a beautiful island, one sixth the size of Ceylon The **sugar** industry has greatly declined in importance, but Jamaica **rum,** which is made from sugar, is still famous **Coffee** and **cacao** are cultivated, and **oranges** and **bananas** are largely grown for the American market

**Kingston** (47,000), the capital, is situated on the south east coast. A railway connects it with the interior, and regular steamer services connect it with the United Kingdom.

The **Leeward Islands** is the official name of the northern islands of the Lesser Antilles from the Virgin Islands to Dominica.

**Dominica** is the largest British Island. Others are **Antigua, Montserrat,** and **St. Kitts.**

**St John's** (10,000), in Antigua, is the largest town.

The **Windward Islands** is the official name of the southern group of the Lesser Antilles, from St. Lucia to the Grenadines

**St. Lucia, St. Vincent,** and **Grenada** are the largest Islands

**Barbados,** east of St Vincent, is the most thickly populated and the most easterly island of the West Indies. It is the oldest British West Indian colony, and depends almost entirely on the sugar industry.

**Bridgetown** (30,000) is the capital.

**Trinidad,** close to South America, is really a South American island It produces **sugar** and **cacao,** but the most noteworthy product of the island is **pitch,** obtained from a pitch lake.

**Port of Spain** (55,000), on the Gulf of Paria, is the capital.

**Tobago** is a small island north east of Trinidad.

The **Bahamas** are less fertile than the Antilles, and only twenty of the islands are inhabited The chief products are **sisal hemp, sponges,** and **salt. Nassau,** on the **island** of **New Providence** is the capital.

4. **Guadeloupe** and **Martinique**, lying north and south of Dominica, belong to **France**, and are the largest of the Leeward Islands.

5. **St. Thomas** and **St. Croix**, in the Virgin Islands, belong to Denmark.
6. **Curacao**, and some other islands near the coast of Venezuela, belong to the Netherlands; so also do a few islands south-east of the Virgin Group.

## THE BERMUDAS.

The **Bermudas** are a group of small coral islands out in the Atlantic, nearly 600 miles from Cape Hatteras. They have a remarkably mild and equable climate, and grow vegetables for export to New York. They are a British Colony and naval station. The capital is **Hamilton**.

### QUESTIONS.

1. Describe the situation and general features of Mexico. Mention some characteristic products of the country.
2. Give some account of the people and their occupations What are the means of communication with neighbouring countries?
3. Give, as nearly as you can by looking at the map, the latitude and longitude of Orizaba, Leon, Monterey, Merida, Vera Cruz, Acapulco, and Tampico.
4. Name in order from south to north the republics of Central America. Name and locate the principal ports.
5. Draw a sketch-map showing the proposed route of the inter-oceanic canal.
6. Give some account of the products and trade of Central America
7. Name the principal divisions of the West Indies. Locate the largest islands of each group. Which islands are nearest Florida, Yucatan, South America, Central America, and Europe. Why is the situation of Jamaica commercially advantageous?
8. What are the characteristic products of the West Indies? How are the islands inhabited, and what powers own them?
9. What do you know of the Bermudas, Mestizos, the Sierra Madre, St. Kitts, pulque, Managua, the Grenadines, Curaçao, Forullo, henequen, the Mosquito coast, Zambos, the Bahama Keys, Loma Tina, Guadeloupe, Colima, and the Barbados?
10. Where and what are Puebla, Campeachy, Punta Arenas, Greytown, Belize, San Jose, Havana, Port-au-Prince, Kingston, Port of Spain, Bridgetown?

# SOUTH AMERICA.

## I. Situation and Size.

South America is the southern continent of the New World. By far the greater part of it is south of the equator.

EXTREME POINTS—

North: **Punta Gallinas** (Colombia), lat. 12° 24′ N.
East: **Cape Branco** (Brazil), long. 34° 46′ W.
West: **Punta Parinas** (Peru), long. 81° 19′ W.
South: **Cape Froward** (Patagonia), lat. 53° 54′ S.
**Cape Horn** (on a small island south of Tierra del Fuego), lat. 55° 59′ S.

South America extends 21° further south than Africa and eight degrees further south than New Zealand. Cape Branco is the nearest point of the New World to the Old World.

In shape South America is a triangle with its longest side on the Pacific and its angles at Cape Branco, Cape Horn, and the Isthmus of Panama.

Its area is about 7,000,000 square miles, so that it is twice as large as the United States, and less than twice as large as Europe or Canada. The extreme length is about 4500 miles and the extreme breadth about 3200 miles.

## II. Boundaries.

North: The Atlantic Ocean and the Caribbean Sea.
East: The Atlantic Ocean.
West: The Pacific Ocean.

## III. Coasts.

The coast-line of South America is less broken than that of any continent except Africa. Although nearly twice as large as Europe, it has only three-quarters as much coast-line.

The coast of the Caribbean Sea is broken by the Gulfs of **Darien** and **Maracaibo**.

The Atlantic coast is usually low. It is broken by the Amazon estuary in the north-east; in the south-east by the La Plata estuary, and by the Bays of **Blanca**, **San Matias**, and **San Jorge**. Smaller inlets form the harbours of **Bahia** and **Rio de Janeiro**.

The Pacific coast is rocky, but, except in the south, where there are fiords and islands like those on the north-west coast of North America, there are no indentations forming good harbours. The only considerable indentation is the **Gulf of Guayaquil** in Ecuador.

In the extreme south the barren island of **Tierra del Fuego**[1] is separated from the mainland by the narrow and tortuous **Strait of Magellan**.

## IV. Relief.

Unlike North America, Asia, and Africa, nearly half of South America is less than 600 feet above sea-level At the same time it has a greater extent of surface above 10,000 feet than any continent except Asia.

The main natural divisions of the continent are :

(1) The highland region of the **Andes** or **Cordillera** in the west.
(2) The **Eastern Highlands**.
(3) The **Central Lowlands**.

1. The **Andes**, the great mountain system of South America, extend down the west coast from the Isthmus of Panama to Cape Horn. In the northern half of the continent they usually consist of several chains enclosing high mountain basins and plateaus. Towards the southern tropic the system widens until it encloses the extensive **Plateau of Bolivia**, more than 12,000 feet above sea-level, which drains inland to **Titicaca** and other lakes In the southern half of the continent the Andes are much narrower, and in parts there is only one clearly defined range

The average height of the Andes is nearly 12,000 feet, and few of the passes over them are lower than this, while several of the most important exceed 15,000 feet

The height of the snow-line varies considerably in a system which extends from the north of the equator to the temperate regions of the southern hemisphere. Within the tropics it is from 15,000 to 17,000 feet above sea-level, and in the south it is about 13,000 feet.

The highest peak in the Andes is **Aconcagua**, 23,000 feet, in Argentina, in the southern half of the system.

On the Bolivian plateau are **Sorata**, 21,700 feet, **Sajama** and **Illimani**, exceeding 21,100 feet.

In Peru, **Misti**, a volcano, is 20,000 feet; and in the Andes of Ecuador, near the equator, are **Chimborazo**, 20,519 feet, **Cotopaxi**, 19,600 feet, **Antisana**, 19,300 feet, and **Cayambe**, 19,193 feet.

Volcanoes are numerous, **Cotopaxi** and many others being constantly active. The Andes and the whole of the Pacific seaboard are subject to frequent and destructive earthquakes.

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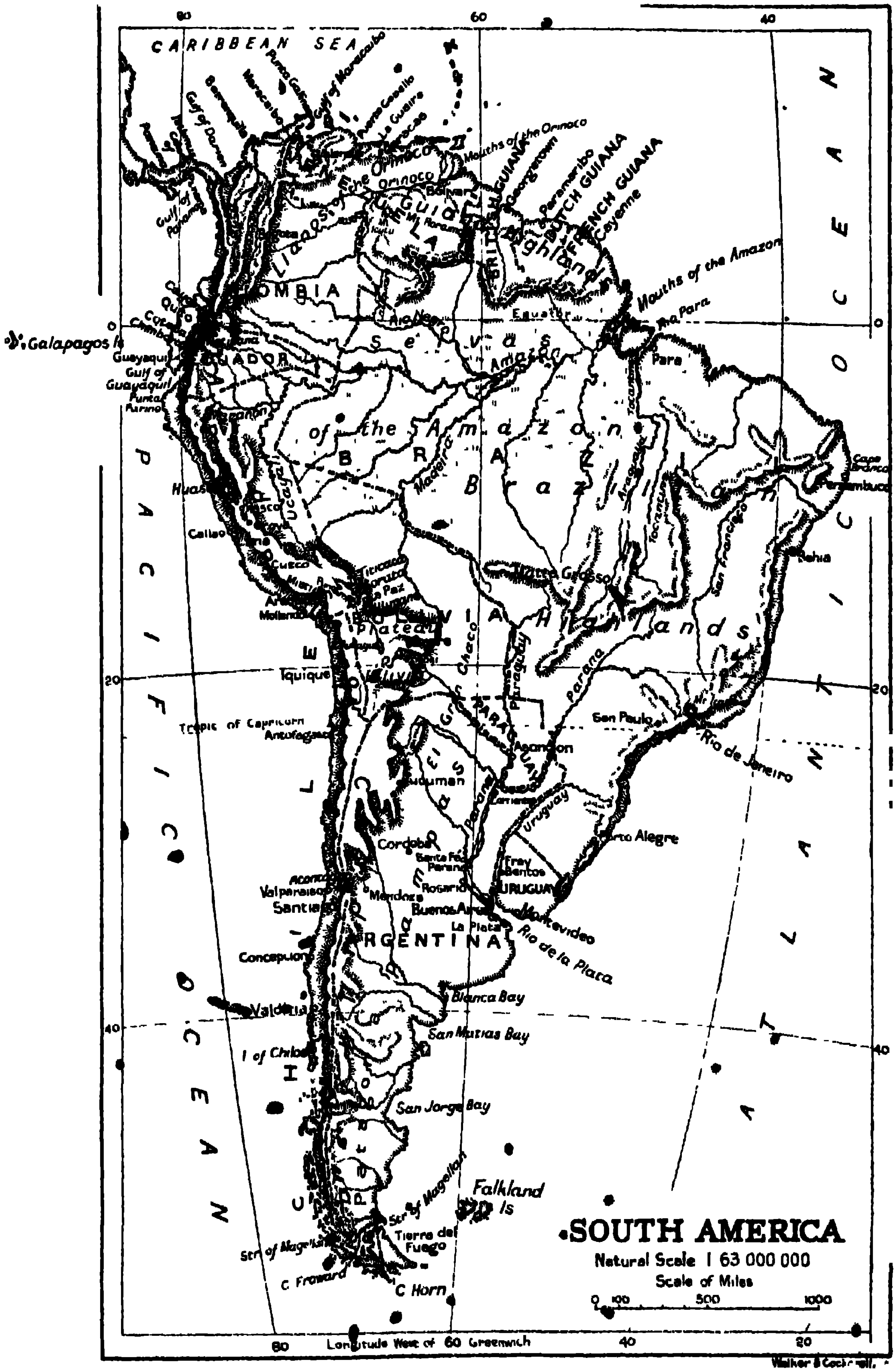
[1] "Land of Fire," so called from the numerous native fires seen by the early navigators.



**SOUTH AMERICA**

Natural Scale 1 63 000 000

Scale of Miles

0 100 500 1000

Walker & Cockerell.

2. The **Eastern Highlands** consist of the **Guiana** and the **Brazilian** Highlands, separated by the Amazon valley. The Serra da Mantiqueira, in the south-east of Brazil, rises to 10,000 feet; **Mount Roraima**, on the borders of Venezuela and British Guiana, reaches 8700 feet; and **Icutu**, in south-east Venezuela, reaches 11,000 feet.

> The water-parting between the Amazon and La Plata basins is in the western part of the Brazilian Highlands, which is known as the **Matto Grosso**, or "thick bush" country.

3. The **Central Lowlands** extend along the whole eastern base of the Andes, and consist of (1) the treeless **llanos** of the Orinoco basin in the north, (2) the **selvas** or forest region of the Amazon in the centre, and (3) the **pampas** or steppe region of the La Plata in the south.

## V. Rivers and Lakes

The great rivers of South America are the **Amazon**, the **Parana** and **Paraguay**, the **Orinoco**, the **Tocantins** and **Araguaya**, and the **Sao Francisco**.

> The **Amazon** (3400 miles), though not the longest, is the largest river in the world. Its head streams, the **Marañon**, which is the largest, and the **Ucayali**, which is the longest, both rise in the Andes, and below their confluence the Amazon is deep enough for any ships. Its course is generally eastward and always south of the equator to an estuary on the Atlantic, notorious for its bores. The largest tributaries are the **Rio Negro** from the north and the **Madeira** from the south. The latter is larger than the Ganges.

> The **Parana** (2400 miles) rises in the Brazilian Highlands, and flows generally south-west till it receives the Paraguay. It is joined by a number of westward-flowing streams from the coast range of south-east Brazil. The **Paraguay** rises in the Matto Grosso of the Brazilian Highlands, and flows generally south to the Parana. The combined streams flow to the **La Plata** estuary (120 miles long), which also receives the **Uruguay** (931 miles) from the coast range of south-east Brazil.

> The **Orinoco** (1550 miles) rises only 500 miles from the sea in the south of the Guiana Highlands, round which it takes a semicircular course. It receives tributaries from the Andes of Colombia and Venezuela, and is connected with the Amazon by the **Casiquiare**, an offshoot which flows to the Rio Negro. It enters the sea by a large delta with navigable distributaries. The **Apure** is the chief tributary.

> The **Tocantins** (2283 miles), like its tributary the **Araguaya**, a

longer and larger river, rises in the heart of the Brazilian Highlands, and flows north to its estuary, the **Rio Para,** an arm of which is connected with the estuary of the Amazon.

The **Sao Francisco** (1800 miles) rises in the south-east of the Brazilian Highlands, and flows north and then south-east to the Atlantic.

The rivers flowing from the Andes to the Pacific are short and insignificant.

LAKES—

The principal lakes are the fresh-water **Titicaca** (3260 square miles), situated on the Bolivian plateau at a height of 12,500 feet, and **Lake Aullagas**, brackish and without outlet, which receives the surplus waters of Lake Titicaca.

There are also numerous lakes along the eastern base of the Andes in Argentina.

## VI. Climate

Most of South America is within the tropics, and extremes of climate are much less marked than in the other continents. The Andes have an important influence on the climate

Most of the continent north of lat. 4° S is in the region of equatorial rains, and here both the west and east slopes of the Andes receive an abundant rainfall From lat. 4° S. to lat. 30° S. the prevailing winds are the easterly trades, which bring abundant moisture from the Atlantic, and deluge with rain the eastern slopes of the Andes. The Pacific seaboard west of the Andes in this region is practically rainless, and in parts desert

South of the Tropic of Capricorn, from about lat. 30°, the prevailing winds are westerly, and here the Pacific seaboard receives abundant rain, while the pampas of southern Argentina have a climate increasingly dry and cold towards the south.

The climate of the plateaux and high mountain basins of the Andes is cool and healthy.

## VII. Plants and Animals.

As regards plant and animal life, South America forms a special region, and a list of its typical animals and plants is given on page 93.

The **selvas** of the hot, moist Amazon basin are the densest tropical jungle in the world. Huge **figs, bamboos, palms,** and other trees are connected by a tangle of luxuriant **creepers,** and have beautiful **orchids** growing on their branches.

The **llanos** of the Orinoco basin are a region of tall grasses which die down in the dry season.

The **campos** of Brazil are the sparsely wooded plateaux of the interior.

The **pampas** of the south are steppes, richly grassed in the moister parts round the La Plata estuary, and poorly grassed in the more arid parts towards the Andes and in the south.

Between the Paraguay and the Andes is a wooded region known as **El Gran Chaco** or "the great hunting ground."

Of the animals mentioned on page 93 the **rhea** is the South American ostrich; **macaws** belong to the parrot family; the **condor** is the largest known vulture; and the small animals of the camel family, namely the **llama**, used as a beast of burden, the **alpaca**, valuable for its wool, and the wild **vicuna**, also valued for its wool, are peculiar to the Andes.

## VIII. Products and Industries.

MINERALS—

South America is rich in minerals. **Gold, silver, diamonds, iron, copper, tin, lead,** and **nitrate** (used for manure) are found.

ANIMAL PRODUCTS—

**Alpaca wool, guano** (a valuable manure), **hides, tallow,** and **extract of meat** are characteristic.

**Horses, cattle, sheep,** and **swine,** introduced from Europe, abound on the Llanos and pampas.

VEGETABLE PRODUCTS—

**Rosewood** and other timber valuable for furniture, **india-rubber, quinine, cocaine, maté** or Paraguay tea, **cacao, tapioca, Brazil nuts** and the **potato** are indigenous.

**Wheat, sugar, coffee, cotton, oranges,** and other fruits, which have been introduced by Europeans, are now important objects of cultivation.

The industries of South America are confined to the comparatively small civilised area round the coast, and are chiefly concerned with the collection and preparation of forest produce for export, mining, coffee-growing, and the raising of live-stock. Manufactures are in their infancy.

## IX. Communications and Trade.

The great rivers and their tributaries afford a splendid system of waterways, but, owing to the undeveloped nature of the country they traverse, full use of them is far from being made.

The **Paraguay-Parana**, at present the most important highway of trade, connects the tropical and temperate parts of the continent.

The railway system is most complete in Argentina, where it extends to the Andes, and will shortly join the Chilean system by lines across the Andes. Buenos Aires will then be directly connected with Valparaiso.

In the other countries of South America there are lines running comparatively short distances inland from the ports on the coast to the centres of trade in the interior.

The **foreign trade** of South America is mostly with the United Kingdom and the United States. Of late years it has greatly increased, especially in Brazil, Argentina, and Chile. **Raw materials** are still the main export, and **manufactured goods** the principal import.

## X. People and Political Divisions.

South America, though nearly twice the size of Europe, has a smaller population than the United Kingdom. It is estimated at about 38 millions, or 5½ persons to the square mile.

The majority of the inhabitants of the civilised parts are of mixed race, descended from Spanish and Indians in the west and south, and from Portuguese and Indians in Brazil. Negroes are numerous, and aboriginal races still inhabit the interior.

With the exception of the colonies of Guiana all the countries of South America are republics. But the governments have hitherto been unstable, and are too often mere military dictatorships.

Most of the states have small standing armies, and Brazil, Peru, Chile, and Argentina have navies of some importance.

The prevailing religion is Roman Catholic. The majority of the people are ignorant and superstitious, and popular education is not of a high standard.

### QUESTIONS.

1. Compare the longitudes of the extreme east and west points of South America with those of the extreme east and west points of North America. What part of the Old World is Cape Branco nearest to?

2. What is the general character of the coast-line of South America? Name the principal opening facing east.

3. In what latitude are the Andes broadest? Name and locate the five highest peaks. Describe from north to south the nature of the country lying at the eastern base of the Andes.

4. What rivers rise in the Brazilian Highlands, and how do they flow? Describe the courses of the Orinoco, Amazon, and Parana.

5 What part of South America is practically rainless, and why? What are the selvas, and what is the nature of the vegetation there?

6. Mention some vegetable products which we owe to South America.

7. What parts of the continent are civilised, and what races inhabit them?

## The Countries of South America.

| | Square Miles | Population | Capitals. |
|---|---|---|---|
| Colombia, | 505,000 | 4 millions. | Bogota. |
| Ecuador, | 120,000 | 1¼ millions. | Quito. |
| Peru, | 695,000 | 4½ millions | Lima. |
| Bolivia, | 765,000 | 1¾ millions. | Sucre. |
| Chile, | 279,000 | 3 millions. | Santiago. |
| Argentina, | 1,114,000 | 4¾ millions. | Buenos Aires. |
| Uruguay, | 72,000 | 930,000 | Montevideo. |
| Paraguay, | 157,000 | 700,000 | Asuncion. |
| Brazil, | 3,218,000 | 14⅓ millions. | Rio de Janeiro |
| French Guiana, | 46,000 | 23,000 | Cayenne. |
| Dutch Guiana, | 46,000 | 67,000 | Paramaribo. |
| British Guiana, | 120,000 | 279,000 | Georgetown. |
| Venezuela, | 594,000 | 2⅓ millions | Caracas. |

## THE ANDEAN STATES.

These are the states traversed by the main chain of the Andes. As in all the tropical states of the western highlands of America, from Mexico southwards, there are recognised gradations of climate dependent on elevation. The country from sea-level up to about 3000 feet is known as the **tierra caliente**, or hot region, with cacao, sugar-cane, plantains, and other strictly tropical products. In the **tierra templada**, or temperate region, extending from 3000 to about 7000 feet, maize, coffee, tobacco, and other sub-tropical products are grown. The **tierra fria**, or cold region, 7000 feet and upwards in elevation, produces wheat, vegetables, and northern fruits.

# COLOMBIA.

(Area, 505,000 square miles; Population, 4 millions.)

The Republic of Colombia occupies the north-west of South America, and the Panama Isthmus as far as Costa Rica. Most of it lies north of the equator. It has the Caribbean Sea on the north, Venezuela and Brazil on the east, Peru and Ecuador on the south, and the Pacific Ocean on the west.

The natural divisions of the country are the Andes, and the great plains to the east belonging to the basins of the Orinoco and Amazon.

> Most of the drainage of the Andes region is carried to the Caribbean Sea by the **Magdalena** and its tributary, the **Cauca**, which flow northward along the high inner valleys.

The hot moist lowlands produce **sugar-cane, rice, cacao,** and **bananas**; the temperate highlands **coffee, tobacco,** and **maize**; and the cool regions **wheat** and **potatoes** Great herds of **cattle** feed on the llanos of the eastern plains, while the southern part of the plains is covered with dense **forest. Gold, silver,** and **emeralds** are found.

> The communications are very poor, the roads of the interior being mere mule tracks. The railway across the Isthmus of Panama from Aspinwall or Colon on the Atlantic to Panama on the Pacific has a great transit trade The Panama Canal remains unfinished.

The people are mainly of Spanish, Indian, or Negro descent, and the population is densest in the high valleys of the Magdalena and Cauca.

> Exports: **coffee, gold, silver** and **silver ore, hides, tobacco,** and **rubber.**
>
> Imports: **foodstuffs, beverages, textiles,** and **iron** and **steel goods.**

TOWNS—

> **Bogota** (120,000), the capital, stands on a small plain in the Andes, 8600 feet above the sea.
>
> **Barranquilla** (40,000), on the lower Magdalena, is the chief port.
>
> **Panama** and **Colon** are important as the termini of the trans-isthmus railway. **Medellin** (40,000) and **Cartagena** are also noteworthy.

## ECUADOR.

(Area, 120,000 square miles ; Population, 1,270,000 )

Ecuador, as its name implies, is crossed by the equator, and extends five degrees south of it. It has Colombia to the north, Peru to the south, Brazil on the east, and the Pacific on the west.

It has three distinct natural divisions : the **Coast**, the **Andes** or **Sierra**, and the **Montana**, or the highland forests of the moist Amazon basin east of the Andes.

> The northern portion of the coast region receives the equatorial rains, and is covered with dense forest. Further south it is dry and barren. The high mountain basins of the Andes have an equable and temperate climate. The Montana is hot, and has a heavy rainfall brought by the trade winds from the Atlantic.

The staple product of the country is **cacao**. **Rubber** is also imported, and from the eastern forests **Peruvian bark**, from which **quinine** is extracted, was first introduced into Europe. **Panama hats** are a characteristic manufacture

> The roads are very bad, but a railway is being made to connect Quito with its port Guayaquil.
>
> The **Galapagos** or **Tortoise Islands**, more than 700 miles from the coast of South America, belong to Ecuador.

TOWNS—

> **Quito** (40,000), the capital, is situated almost under the equator at an elevation of over 9000 feet. The climate is mild, and very equable. The city is within forty miles of Cotopaxi, and subject to violent earthquakes.
>
> **Guayaquil** (51,000), on a river flowing into the Gulf of Guayaquil, is the principal port.

## PERU.

(Area, 695,000 square miles ; Population, 4,609,000.)

Peru, once the central territory of the great Indian empire of the Incas, lies south of Ecuador, west of Brazil and Bolivia, and north of Chile. It has the same natural divisions as Ecuador, but the coast strip is rainless and desert, except along the streams.

The **Marañon** and the **Ucayali**, the two great headstreams of the Amazon, have their sources and upper courses in the Peruvian Andes. The northern portion of the Bolivian Plateau, and the greater part of Lake Titicaca, belong to Peru.

**Sugar-cane, cotton, tobacco,** and **fruit** are grown along the rivers of the coast; **maize** and **potatoes** are grown in the Andes, whence also comes the valuable **wool** of the **alpaca** and **vicuna.** From the Montana come **cacao, coffee, tobacco,** and **coca.**

The **mineral wealth** of the country is still great, but the absence of good roads makes it difficult to utilise it fully. **Railways** are now being made, and Peru already possesses two of the most wonderful lines in the world: one connecting Lima with Oroya, which crosses the Andes at a height of 15,600 feet, and one which reaches 14,600 feet, running from Mollendo on the Pacific to Puno on Lake Titicaca.

Exports: **sugar, silver** and **silver ore, copper** and **copper ore, wool, cotton, rubber, cocaine,** and **coca leaves.**

Imports: **textiles, iron,** and **machinery.**

Towns—

**Lima** (100,000), the capital, is situated on the coast-strip six miles from its port, **Callao** (16,000), with which it is connected by railway. It is a handsome but unhealthy city, built of *adobes* or sun-dried bricks.

**Arequipa** (35,000) is situated beneath the great volcano of Misti, on the Mollendo-Puno railway.

**Cuzco** (20,000), the ancient capital of the Incas, is situated in the Andes, 11,300 feet above the sea.

**Pasco,** the centre of a silver-mining district, is 13,200 feet above the sea, and is probably the highest city in the world.

## BOLIVIA.

(Area, 735,000 miles; Population, 1¾ millions.)

Bolivia projects like a wedge between Peru and Brazil. It has Chile on the south-west, Argentina and Paraguay on the south. It has no coast, and its surface is divided about equally between the Andes and the Montana.

The Andes region comprises the southern half of the basin of **Lake Titicaca,** which discharges its waters by the **River Des Aguadero** into **Lake Aullagas.**

**Rubber, cinchona,** and **coca** are important products, and **cattle, sheep,** and **llamas** are numerous. The once famous

**silver mines** of Potosi are still worked. **Tin** and **copper** are found.

The railways are connected with the Peruvian and Chilean systems, but much of the forest produce of the Montana finds its way down the Amazon to **Para**, and is exported thence.

**Sucre** (21,000) is the nominal capital, but **La Paz** (57,000), near Lake Titicaca, is the largest town.

## CHILE.

(Area, 279,000 square miles; Population, 3,000,000.)

Chile occupies the Andes and the Pacific seaboard from Peru to Cape Horn. On the east it touches Bolivia and Argentina. Its width averages about 100 miles.

From the island of **Chiloe** southwards the coast is broken by fiords and fringed with islands. The **Strait of Magellan** and the western portion of **Tierra del Fuego** are Chilean.

Most of Chile is outside the tropics, and cool south winds and cool ocean currents make the climate more temperate than in corresponding latitudes in the northern hemisphere. The Pacific coast ceases to be rainless south of lat. 30°, and the climate of central Chile is pleasant and healthy. This is the most populous part of the country. **Wheat, tobacco, grapes,** and other southern fruits are grown. **Cattle** and **sheep** are numerous.

The northern portion of the coast and the corresponding section of the Andes are arid and often desert, but they contain beds of **nitrate of soda,** which is the most valuable product of the country. **Copper, silver,** and **gold** are also worked.

Railways connect the capital with the principal ports of Central Chile. A line from **Antofagasta** goes into Bolivia, and short lines run inland from the coast at various points. The line across the Andes is approaching completion.

**Exports: nitrate, copper, silver, wheat, iodine** (extracted from the nitrate), and **leather.**

**Imports: sugar, coal, cotton goods, tea, oil.**

TOWNS—

**Santiago** (292,000), the capital, is situated at the foot of the Andes in lat. 33°. It is a healthy town with a pleasant climate. It has regular streets, a university, and the usual institutions of a civilised capital.

**Valparaiso** (135,000), the principal port, is situated 60 miles from Santiago, on a small bay facing north.

**Concepcion** (50,000) and **Valdivia** are the principal ports south of Valparaiso.

**Iquique**, on the desert part of the northern coast, is the great port for the shipment of nitrate.

## THE LA PLATA STATES.

These are the large state of Argentina, and the small states of Uruguay and Paraguay.

### ARGENTINA.

(Area, 1,114,000 square miles; Population, 4¾ millions)

The Argentine Republic or Argentina occupies the whole of southern South America east of the crests of the Andes up to the La Plata estuary. Further north it has Uruguay, Brazil, and Paraguay to the east. It touches Bolivia on the north, and Chile on the west.

Argentina is almost entirely in the south temperate zone, and at the south-eastern extremity of Tierra del Fuego it touches lat. 55° S, a latitude corresponding to that of Newcastle-on-Tyne in the northern hemisphere.

Most of Argentina is a plain below 600 feet in elevation sloping from the base of the Andes to the Atlantic. El Gran Chaco, between the Andes and the Paraguay in the north, is a wooded region. The central portion, west of the Uruguay and south of the Lower Parana and the La Plata, is the rich grassland of the **Pampas**. The more elevated plains of Patagonia in the south have a smaller rainfall and many barren tracts.

The climate varies from that of the tropics in the north to that of the cold temperate zone in the south. In the basin of the lower Parana it is pleasant and healthy, well suited to the peoples of southern Europe who emigrate there in large numbers.

The chief industry is the raising of **live-stock**. Great numbers of **horses**, **cattle**, and **sheep** graze the pampas, tended by **Gauchos** of mixed Spanish and Indian descent, who are famous for horsemanship and skill with the lasso.

**Agriculture** is extending, and **wheat** and **maize** are largely cultivated. The manufacture of **preserved meat** and **meat extracts** is important.

Owing to the flatness of the country the railway system is the most complete in South America. It extends to the Andes, and is within a few miles of meeting a railway from Chile.

Exports: **Animals** and **animal products** such as **meat, tallow,** and **hides**; **wheat**, and **wool.**

Imports: **Textiles** and **wearing apparel, iron** and **iron goods.**

TOWNS—

**Buenos Aires** (836,000), the capital, is situated in a latitude corresponding with that of the southern Mediterranean. It is a handsome and healthy town, and the largest city in the southern hemisphere. It stands on the south side of the shallow estuary of the La Plata or River Plate, and docks have been made to receive sea-going ships. It is the centre of the railway system of the country and its chief port.

**Rosario** (112,000), on the lower Parana, is a river port and railway centre,

**Cordoba** (50,000) is the centre of an agricultural and cattle-rearing district near the eastern base of the Andes.

**La Plata** (61,000), on the estuary, is a port and agricultural centre. **Tucuman, Mendoza,** on the Andes railway, **Santa Fé, Parana,** and **Corrientes** are other towns of importance.

## URUGUAY.

(Area, 72,210 square miles; Population, 930,000.)

Uruguay, a state smaller than the island of Great Britain, occupies the country to the north of the La Plata, between the River Uruguay and the Atlantic.

The great industry is the rearing of **cattle** and **sheep. Preserved meat** in various forms is prepared for export, and **Fray Bentos** is known everywhere for its manufacture of Liebig's Extract of Beef.

Exports: **Wool, hides** and **skins, dried beef, extract of beef,** and **tallow.**

Imports: **Foods** and **drinks, raw materials** and **machinery, textiles.**

**Montevideo** (249,000), the capital, is a handsome and well-built town, situated on a small bay on the north side of the La Plata estuary. It is the chief port and railway centre.

## PARAGUAY.

(Area, 157,000 square miles; Population, 700,000.)

Paraguay is a small state in the basins of the Paraguay and upper Parana. The latter forms the greater part of its eastern and southern boundaries. Bolivia and Brazil bound it on the north, Brazil on the east, Argentina on the south and west. It is partly within the tropics.

The chief industry is the growing of **yerba-mate** or **Paraguay tea.** The forests produce valuable **timber,** and **tobacco** and **fruit** are grown.

Exports: **maté, hides, timber, tobacco,** and **oranges.**

The imports are chiefly **textiles.**

**Asuncion** (45,000), on the left bank of the Paraguay, is the capital.

## BRAZIL.

(Area, 3,218,130 square miles; Population, 14,334,000.)

Brazil, by far the largest state of South America, compares in size with Australia and the United States, being the fifth country in the world as regards extent of territory. It is the one Portuguese-speaking state of the continent.

Brazil forms a triangle of much the same shape as South America itself, the west side of which touches Colombia, Peru, Bolivia, Paraguay, Argentina, and Uruguay; the east side the Atlantic; and the north side Venezuela, Guiana, and the Atlantic. Except in the extreme south, the whole country is within the tropics, and much the greater part of it belongs to the basin of the Amazon.

More than a quarter of the country belongs to the Brazilian Highlands, and is largely composed of low plateaux called **campos,** unfertile, and producing little but grass. The dense forests of the **selvas** of the Amazon and the **Matto Grosso** in the west of the highlands are almost uninhabited, and only a comparatively small area in the east and south, which has been brought under cultivation, can be called populous.

The staple industry is **coffee-planting,** and most of the world's coffee supply comes from Brazil. **Sugar, tobacco, cotton, mate,** and **cacao** are also cultivated. The forests produce **rubber, Brazil nuts,** and valuable **timber. Gold, diamonds, iron,**

**coal**, and other minerals are found. Manufactures, especially the **cotton** manufacture, are on the increase.

The railway system is most complete in the coffee-growing region of the south-east coast, with Rio de Janeiro for its centre. Lines also run inland from several of the other ports.

The white inhabitants are mostly of Portuguese descent, but of late years many Italian and German immigrants have settled in the country. Negroes form one-fifth of the population, and Indian tribes are found in the selvas and other parts of the interior.

Exports: **Coffee, rubber, tobacco, hides**, and **cacao.**

Imports: **Cotton and woollen goods, iron** and **machinery**, and various forms of **food**. The foreign trade is mainly carried on with the United Kingdom, the United States, Germany, and France.

TOWNS—

**Rio de Janeiro** (750,000), the capital, is situated just within the tropics, on a beautiful and almost land-locked bay. It is a great port, and the trading centre of the coffee region. The town is famous for its gardens and avenues, but is unhealthy.

**Bahia** (174,000), on a bay in the middle of the east coast, is the second port, and the centre of a sugar and tobacco district.

**Pernambuco** (111,600), on the northern part of the east coast, is a port, and the centre of a cotton, sugar, and coffee district.

**San Paulo** (65,000) is a town of the south-east coffee district;

**Porto Alegre** (52,000) is a rising port situated at the head of a lagoon on the southern part of the coast.

**Belem,** or **Para** (50,000), on the River Para, is the great port and trade centre for the Amazon and Tocantins. It exports rubber, Brazil nuts, vanilla, and other forest produce.

## GUIANA.

On the northern coast, just north of the equator, between Brazil and Venezuela, are the colonies of **French Guiana** or **Cayenne, Dutch Guiana** or **Surinam,** and **British Guiana.** Only a strip along the coast, low and unhealthy, and protected from the sea by embankments like those of Holland, is settled. The interior is a vast and little known forest, rising into highlands in the south and west.

The staple product of British and Dutch Guiana is **sugar.** French Guiana is a penal colony. **Gold** has been found in the highlands of the west, and some gold obtained from surface workings is exported.

**British Guiana.** (Area, 120,000 square miles; population, 285,000.)

**Georgetown** (53,000), in Demerara province, is the capital.

Many coolies emigrate from India to work in the sugar plantations of Demerara.

**Dutch Guiana.** (Area, 46,060 square miles; population, 66,000.)

**Paramaribo** (31,000) is the capital.

**French Guiana.** (Area, 46,850 square miles; population, 22,000.) The capital is **Cayenne,** which has given its name to a well-known red pepper.

## VENEZUELA.

(Area, 593,943 square miles; population, 2,323,000.)

Venezuela occupies the extreme north of South America, between Colombia and Guiana. The final spurs of the Andes enter the country in the north-west, and are continued along the coast of the Caribbean Sea, but the greater part of Venezuela belongs to the llanos of the Orinoco and to the Guiana Highlands.

**Coffee, cacao,** and **sugar-cane** are cultivated in the lowlands and in the highland valleys of the northern coast, coffee being the staple export of the country. Great numbers of **cattle** are bred on the llanos, and the forests produce **rubber** and **vanilla.**

**Gold** and **copper** are found.

TOWNS—

**Caracas** (72,0000), the capital, is situated in a valley of the coast range at an elevation of 3000 feet. It is connected by rail with **La Guaira,** the chief port of the country.

**Valencia** (39,000) is also situated in the coast range, and is connected by rail with **Puerto Cabello** on the Caribbean Sea.

**Maracaibo** (34,000), on the lagoon connected with the Gulf of Maracaibo, is the second port.

**Bolivar** is an important river port on the lower Orinoco, accessible by sea-going steamers.

## THE FALKLAND ISLANDS.

This group of islands, 300 miles east of Magellan Strait, forms a British Crown Colony. The climate is raw and unpleasant.

The inhabitants, about 2000 in number, are mostly of European origin.

**Sheep farming** is the main industry, and **wool** the principal export.

### QUESTIONS.

1. What differences of climate and products are caused by differences of elevation in the Andean States of South America? Which of the capitals are situated at a height of over 5000 feet.

2. What are the natural divisions of Peru? Which of these natural divisions are also found in Ecuador, Bolivia, and Colombia? Mention characteristic products of each of them.

3. Where and what are Bogota, Colon, Quito, Lima, Cuzco, Guayaquil, and La Paz?

4. In what respects does Chile differ from the countries north of it? What is its most characteristic export, and where is it obtained?

5. How does Argentina compare in size with Russia in Europe and with India? Describe the natural divisions of its surface. With what country does it share the Andes?

6. What is the principal source of wealth in the La Plata States? Where are the pampas?

7. What and where are Montevideo, Buenos Aires, La Plata, Asuncion, Mendoza?

8. What are the natural divisions of Brazil? What is the most important industry, and what part of the country is devoted to it?

9. By what port do the products of the selvas chiefly leave Brazil? Is the forest produce of any other countries shipped from the same port?

10. What do you know of Rio de Janeiro, Belem, Bahia, Pernambuco?

11. Give a short description of Guiana.

12. Describe the situation and physical features of Venezuela. What are its principal products?

13. What do you know of Cayenne, Caracas, Georgetown, Bolivia, and Maracaibo?

14. Where and what are the Galapagos Islands, the Falkland Islands, Chiloe, Tierra del Fuego, Fray Bentos, the Montaña, Matto Grosso, Roraima, El Gran Chaco, Aconcagua, the Ucayali, Chimborazo, Patagonia, Titicaca, Pasco, Cape Froward, Valdivia?

## EXAMINATION PAPERS

### *Calcutta University Entrance Examination*, 1901.

1. Define—continent, volcano, estuary, latitude, zones, oasis.

2. Draw a map of the Chinese Empire, indicating—(*a*) the neighbouring countries, (*b*) three large rivers, (*c*) six important towns, (*d*) one mountain range, (*e*) the important adjacent islands.

3. Name—(*a*) the eastern maritime counties of England, (*b*) the chief British possessions in and near America.

4. Mention—(*a*) the tributaries of the Ganges and the Indus, (*b*) the principal towns on the Malabar coast, (*c*) the states of South Africa, (*d*) the countries of the American continent bordering on the Pacific, (*e*) the rivers of Europe that fall into the Baltic, (*f*) the mountains of Austria, (*g*) six important towns in Italy.

5. Select any six of the following, and state what and where they are: Transvaal, Candia, Flint, Elgin, Trieste, Khokan, Helsingfors, Adelaide, Bogota, St. Louis.

6 From what causes does the surface of the earth crumble away? How is soil made? Why do soils differ from each other?

7. Name and describe the different motions of the sea. What effect has the sea on the land?

### *Madras University Matriculation Examination*, 1899.

1. What are the chief districts in India (including Burma and Ceylon) for the production of the following: Rice, wheat, pepper, cotton, jute, indigo, opium, coffee, cinchona, coal, rock-salt, pearls, teak, coir (for ropes), tea, tobacco? From what countries are the following imported into India: Machinery, matches, horses, wine, kerosene oil, cotton cloth, linen, silver, and woollen goods?

2. Where are the following towns, and for what is each remarkable: Allahabad, Agra, Darjeeling, Madura, Peshawar, Cawnpore, Colombo, Howrah, Mangalore, Roorki, Jubbulpore, Surat, Bezwada, Karachi, Mandalay, Kandy, Poona, Srinagar, Hingangat, Port Blair?

3. Write short notices on the following: Dead Sea, Sargasso Sea, Mont Cenis Tunnel, Niagara Falls, Great Doab, Great Barrier Reef, Adam's Bridge, Trade Winds, Rann of Cutch, The Gulf Stream, The Sahara, The Grand Trunk Road, Tundras, Jacobabad, Banks of Newfoundland, The Bore of the Hughli, Atolls, Black Cotton Soil, The Great Wall of China, The Suez Canal.

4. Give the names (noting their position and importance) of: (*a*) five towns in Russia, (*b*) six seaports on the Mediterranean Sea, (*c*) the capitals of the provinces of Australia, (*d*) three ports of France on the Atlantic, (*e*) six seaports and six inland towns in Great Britain.

5. Make a sketch-map of North and South America, marking in the chief mountain ranges and rivers

6. Where are the following, and what is remarkable about each? Chicago, Cork, Cologne, Milan, Belize, Vancouver, New York, Antananarivo, Buddh-Gaya, Athens, Heidelberg, The Siberian Railway, Blenheim, The Goodwin Sands, Ben Nevis, Quito, Stromboli, Geneva, Brussels, Plassey?

7. State where the following are situated and the reasons that have recently brought them into notice: The Yukon River, Port Arthur, Manila, The Tirah Valley, Delagoa Bay, Khartum, Havana, Venezuela, The Hague, Pretoria.

### *Panjab University Entrance Examination*, 1900.

1. Define poles, arctic circle, watershed, isthmus, and zones. Explain, with the help of a diagram, how there is one long night and one long day, each of six months' duration, at the poles.

2. What are volcanoes? Trace their distribution on the earth's surface. What other proofs have we, besides volcanoes, of the internal heat of the earth?

3. (a) Why is the morning and the evening less warm than noon? (b) Why are cloudy nights usually warmer than clear ones? (c) Why is summer warmer than winter? (d) Why are mountains colder than the plains?

4. What becomes of the rain when it has once fallen? Explain the formation of springs. What effect has rainfall on the surface of the earth?

5. (a) Of what ingredients is the air composed? (b) How are winds formed? (c) Explain the nature of trade winds.

6. (a) Name the principal lakes of Central Africa, the rivers with which they are connected, and the seas into which they flow. (b) Name the provinces forming the Dominion of Canada.

7. Name in order the countries through which the equator passes, and the chief towns situated on or near it.

8. On a journey by sea from India to England, through what seas and past what countries would you go? Give each in order.

9. In what countries are the following cities, and what is the means of commercial communication between each pair:—St. Louis and New Orleans; Pekin and Nankin; London and Paris; Alexandria and Malta; Herat and Teheran; Cairo and Khartum?

10. In what countries do you find tea, coffee, hemp, tobacco, opium, rice, and coal?

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